1-15-2023

Childhood Learning Through Mindful Sensory Experiences in Nature: Attentive Earth and Body– A Five-Lesson Educator's Guide

April Andrescavage
aandresc@lesley.edu

Childhood Learning Through Mindful Sensory Experiences in Nature: Attentive Earth and Body– A Five-Lesson Educator's Guide

April Andrescavage

Mindfulness Studies, Lesley University

January 2023

Dr. Melissa Jean & Dr. Andrew Olendzki

Dedication & Acknowledgements

This work is dedicated to my family who have always supported my ideas, growth, and crazy pursuits. Thank you to my Mom, Rita and my Dad, Frank for always being my biggest advocates and for their continuous support as I navigated my way through the process of this program. I could not have completed this program without the love and support of my partner, Justin. Thank you for being my sounding board and picking up the slack when I was deep in the writing process. To Frank, Lore, Ella, and PB, thank you for being my Boston representatives, supporting me during residency and providing me with comic relief when classwork got stressful. Finally, I dedicate this work to the joy of my life, Willow, who came to us in the middle of my endeavor through this program. This work was created with you at the forefront of my creative process. I hope that this work seeps into our souls and works to create deep bonds.

Thank you to my friends and colleagues for their support throughout my journey to this Mindfulness Masters. To Liz and Suzanne, I deeply appreciate the many conversations, proofreading sessions, and real-life classroom experiences that you brought to this project. To Candice, Haley, and Kim, you are my soul sisters. Thank you for your unending care and encouragement through this project.

Each class during the Masters of Mindfulness program has enriched my outlook and my life. The guidance provided by each professor along the way has been invaluable. Thank you to Nancy Warring, Andrew Olendzki, Alice Armstrong, and Julie Yammine for sharing your wisdom and spirit with me. A guiding light from my very first class all the way until the end of this thesis project has been my insightful advisor and professor, Melissa Jean. Your calm demeanor, passion for nature, amazing writing skills, and steadiness have guided me to be able to create this project. Thank you.

Abstract

The benefits of spending time outside in nature are well documented for children. However, due to both micro and macro systems level causes, children are spending less time in nature than they have in the past. Children spend a large amount of time in school, which makes it the perfect setting to incorporate more time outside into their day. This paper begins with a review of current and historical literature around the themes of childhood experiential learning, nature exposure, and mindfulness experiences that focus on sensory learning. This research has informed the development of the creative project titled *Attentive Earth and Body*, which is an educator's guide and five-lesson curricula. The purpose of *Attentive Earth and Body* is to provide lessons for early elementary educators to teach self-awareness to students through attention practices using the sensations of nature. Mindful sensory based activities are offered to assist educators with teaching whole body learning and interoceptive skills, and with promoting self-awareness and social emotion learning. Research has also shown that children that develop connections to nature are more likely to display pro-environmental behaviors throughout their lives. *Attentive Earth and Body* strives to provide children with fun and positive experiences in nature, hoping to strengthen the bond between the child and the earth.

Table of Contents

Childhood Learning Through Mindful Sensory Experiences in Nature

A child's work is to play. Play cultivates the development of the child's learning. Play can take place in any environment, as it is happening throughout a child's entire day. A dynamic and enriching space for play to occur is outside in nature. Nature in relation to a child's play space can describe any experience that is outside and is not bound by limitations of walls. It is easy to picture beautiful scenes of mountains, streams, and bright sunshine and imagine how a child can thrive learning in this environment. However, nature and a child's play do not have to be restricted to only these idyllic scenes. Nature can be reflected in the small, green plants that grow in the cracks of a sidewalk. It can be the breeze on a child's face and hair on a windy day in the city. It can be jumping in puddles after a rainstorm on a school playground. Bringing attention to the sensation of how nature feels for children in the above scenarios can be a practice in mindfulness at a young age. It is a child's right to spend time learning outside and from the natural elements of the Earth.

This paper begins with a review of current and historical literature around the themes of childhood experiential learning, nature exposure, and mindfulness experiences that focus on sensory learning. The first research studies described examine the effects that nature immersion has on children. This section will also explore research that discusses lifelong effects of experiencing positive engagement in nature, specifically pro-environmental behaviors such as conservation. The research review will then shift to discuss the challenges of children getting into nature and having natural experiences with play and learning in the natural environment. The next section will highlight the importance of positive experiences in nature and how they can be supported by mindfulness practice. A focused lens will explore potential gaps in research concerning experiences in nature through sensation-based mindfulness practices, specific to

childhood learning and positive exposure. A discussion section will tie together the research regarding childhood mindful experiences in nature to the concept of sensory learning. Exploring the benefit of mindful sensory exploration in nature for children, this discussion will be a bridge to a creative thesis project that will assist teachers in providing experiential mindful learning about the senses in nature. The purpose of this teacher's guide is to provide lessons for early elementary educators to teach self-awareness through mindful attention practices using awareness of the sensations of nature.

Children and Nature

In the public-school setting, learning naturally takes place in the classroom setting. Teachers spend great amounts of time and effort making their classroom a safe space for learning to occur for their students. Students usually have opportunities to have recess and maybe physical education activities outside, but time outside accounts for a small amount of the school day. Before suggesting that more focus be placed on teaching outside of the classroom and in nature, it is important to explore what the research says about the effects of spending time in nature for children.

In 2021 Nagata and Liehr published a research study using mixed methods of data collection with a population of families in Lower Manhattan, asking them about their experiences in natural spaces. The context was three natural areas, an urban farm, a local park (green space), and a harbor (blue space). The quantitative data was collected from a sample of 174 participants using the Positive Affect and the Life Satisfaction scales. The qualitative data collection consisted of interviews with 15 of the participants of the quantitative collection. The data collected from the parent questionnaires which provided quantitative data and interviews providing qualitative meaning to experiences demonstrated that "more frequent nature-child

space-time immersion combined with parental valuing of nature connection as a soothing and safe resource contributed to child well-being" (Nagata & Liehr, 2021, p. 181). This article and findings are important for two reasons. The first demonstrates the effects of children spending time in nature. Parents reported an overall increase in child well-being. The second is that children even in the busiest of cities can find ways to access natural spaces. The qualitative interviews provided experiential meaning to the time spent at the urban farm. Children had opportunities to experience "a quality of the coexistence of city elements with natural elements" in a "gentle space that provides a sense of acceptance, safety, and connection" (Nagata & Liehr, 2021, p. 181). The ability for children to get outside of the walls of their classrooms and homes in the city and participate in outside activities was a positive experience for the families in this study. There are many documented benefits to increasing children's exposure to natural settings. The following will discuss both mental and physical benefits of time in nature, as well as expanding the benefits to longer studies looking at pro-environmental behaviors in adults in relation to their childhood experiences.

Well-Being of Children in Nature

Spending time in nature is beneficial for people across their lifespans. Li et al. (2021) conducted a systematic review looking at research that combined childhood experiences in nature and the lifelong benefits, analyzing the results of 29 studies. This systematic review concluded that there was a "beneficial role of early nature exposure in later-life mental health" (Li et al., 2021, p. 24). The analysis of the 29 studies included in this review supports the notion that exposing children to natural play spaces early in their lives could have positive outcomes for not only their current beings but also for their overall mental health as they age. This is also supported by studies indicating that time in nature provides benefits such as an increased ability

for a child to manage stress and manage attention deficit hyperactivity disorder (ADHD) symptoms (Adams & Savahl, 2017), an increase in attention, focus, and relaxation (Chawla et al., 2014), and an improvement in mood (Li et al., 2018). These studies used a variety of quantitative and qualitative data, which was gathered in a variety of places across the world and for a variety of ages of children. The overall theme emerged recognizing that children who spend time in nature may experience cognitive benefits. Benefits can be more than just cognitive. The following study highlights the importance of outside play on the physical body.

Play that happens in outside spaces provides opportunities to use the physical body in many ways. All the senses can be stimulated in nature, from the feel of wind on their skin to the way the wind sounds as it passes through the trees. Children use all their senses as they navigate in the natural environment, learning about how their bodies work in space. Dankiw et al. (2020) published a systematic review analyzing 16 studies that focused on children's play in the natural environment. The "synthesis of the findings suggests that nature play may have a positive impact on a range of children's health and developmental outcomes—specifically, PA [physical activity], health-related fitness, motor skill, cognitive learning, social and emotional development" (Dankiw et al., 2020, p. 12). Results of the review of 16 studies also support the findings that time spent in nature impacts the well-being of children. Positive impacts on the overall well-being of children are being recognized by teachers and administration at schools, influencing change to improve the access to outside spaces in schools. The study that follows describes and demonstrates this trend.

Nel et al. (2017) surveyed a group of teachers and set out to develop a system of evaluating outside spaces that their children were accessing, working towards the goal of creating stimulating outside experiences for their students. Nel et al. (2017) stated that

"stimulating the senses can have a positive effect on learning as well as emotional and social growth in a child" (p. 2). The results of their study provided a rubric to help teachers determine the relevance for sensory motor development activities in their outside spaces, so they can provide stimulating environments. This article highlights an important part of sensory and motor development: "Sensory and motor stimulation do not only take place in the classroom, but much of it takes place outside, on the playground, if the environment is favorable" (Nel et al., 2017, p. 1). Attention to outside spaces in school allows access for all children, no matter where they live outside of school or what their home life is like. Having schools and teachers pay attention to the diversity of outside spaces at school increases access to stimulating outdoor spaces for many children.

Psychological Benefits and Nature Connection

The theme of schools starting to pay attention to outside learning is also supported by research completed by Djonko-Moore et al. in 2018. This group of researchers described an increase in learning and engagement in science-based learning when it was completed outside and in activities that involve active participation with the environment. When students can get outside of the walls of the classroom, their senses can be stimulated in new ways during the learning process. As discussed in the previous section, benefits of learning in nature can include cognitive and physical benefits. This article connects a new benefit to the already discussed physical and cognitive benefits, the psychological impact. Attributes like engagement and interest are some of the psychological benefits that this article discussed. This theme is reinforced in the literature. Okur-Berberoglu (2021) discussed the psychological benefits of free play in nature as creativity, self-confidence, observing, exploring, as well as cognitive development. Hinds and O'Malley (2019) also discussed psychological benefits, including

competence and hope. They also discussed a concept of connectedness to nature that was repeated in a variety of articles surrounding children in nature. Results from a 2018 study by Sobko et al. also discussed the psychological benefits of children spending time in nature: children that showed enjoyment in nature demonstrated less distress; those that had greater responsibility in nature had less impulsivity and improved peer relationships; and the more aware of nature they were, the less emotional distress they had. All these outcomes discuss the positive psychological benefit that children who get time in nature can display. Because of these findings, it is important to continue to find opportunities for children to connect to natural settings.

Connection to nature is described by Cheng and Monroe (2012) as not only cognitive knowledge about nature but an emotional and affective attachment to nature. They developed a children's connection to nature index that examines four areas of how children relate to nature: enjoyment of nature, empathy for its creatures, sense of oneness, and sense of responsibility. The connection to nature index was used as part of an already existing environmental program for children at a zoo in Florida. One of the results of this study suggests

> children who enjoy nature, have empathy for other living creatures, have a sense of oneness, and feel responsibility for nature are more likely to develop interest in spending more time in nature, which may in turn enhance children's physical and psychological health. (Cheng & Monroe, 2012, p. 44)

Attending to children's emotional connections to nature is an important part of designing environmental programs for children that can impact not only the child's well-being, but also potentially encourage environmentally friendly behavioral choices in their future lives. This result is supported by Barrera-Hernández et al. (2020) who used the connection to nature index developed by Cheng and Monroe (2021) along with gathering data about sustainability

behaviors. The results of this study demonstrated an increase in the happiness of children who spent time in nature along with another important find; the results "suggest that children who perceive themselves as more connected to nature tend to perform more sustainable behaviors" (Barrera-Hernández et al., 2020, p. 6). The emotional connection to nature in this study suggests that children that have positive experiences with nature will make behavioral choices that could have positive impacts on nature.

Encouraging Pro-Environmental Behaviors

An outcome of children spending time in nature could be larger than just the impact on the health and well-being of that child. A potential outcome could be longer lasting lifelong effects that encourage positive behaviors that impact the planet as well. "Proenvironmental behavior is such behavior which is generally (or according to knowledge of environmental science) judged in the context of the considered society as a protective way of environmental behavior or a tribute to the healthy environment" (Krajhanzl, 2010, p. 252). Pro-environmental behaviors can include a variety of activities, from conservation to activism. Actively participating in pro-environmental behaviors can be recycling, conserving water consumption, using renewable energy sources, advocating for renewable energy at the local level for communities, and many more.

In a study with 2004 participants across the United States, Wells and Lekies (2006) completed a retrospective data collection from adults related to their childhood nature experiences and their current views and practices of pro-environmental behaviors. Their results demonstrated that "when children become truly engaged with the natural world at a young age, the experience is likely to stay with them in a powerful way—shaping their subsequent environmental path" (Wells & Lekies, 2006, pp. 13-14). This study found that having positive

nature experiences in children under the age of 11 had the greatest impact on adult attitudes and behaviors toward taking care of the environment. An interesting aspect of this article was the types of activities that were described as nature experiences. There were two categories, domesticated (e.g., gardening, planting trees) and wild (e.g., playing, hiking, camping). Both types of experiences had a positive impact on pro-environmental behaviors, however, wild play had a greater impact. Implications from this study point to the benefits of both structured learning about nature as a child (particularly before the age of 11) as well as allowing children opportunities for free and open play in nature. The concept of positive nature experiences in childhood as a predictor of pro-environmental behaviors are supported by other studies including those exploring childhood connection to nature (Cheng & Monroe, 2012), childhood environmental identity (Adams & Savahl, 2017), and the link between early childhood experiences vs. adolescent experiences having a larger impact on environmental behaviors (Keith et al., 2021). The research has demonstrated that there are multiple benefits of childhood exposure to nature. The impact is personal during childhood (cognitive, physical, psychological) and for the encouragement of pro-environmental behaviors for the future. The research around childhood and nature experiences also discusses challenges of children experiencing nature, including the decline of time spent in nature. The following section discusses this trend.

Decrease in Access to Nature

In contrast to the above stated benefits of children spending time in nature, there has been a trend of children spending *less* time in nature. This concept has been examined by many researchers looking to determine why children are spending less time in nature and the impact this has on children. Moore (1997) highlighted a variety of reasons why children are spending less time in nature. These include traffic dangers, fear of abduction, reduction of play spaces due

to urban development, increase in structured time with decreased time for free play, changing family dynamics, electronic media, air conditioning, and commercialization of play. Twenty-five years later, all of these components continue to influence the time children spend in nature, with arguments that some of these components are even more exacerbated. For example, electronic media and opportunities for screen time are a large part of a child's everyday experience. Similarly, Djonko-Moore et al. (2018) noted a decreased knowledge of the environment in the relation to science performed in school. In their study, they discussed an increased emphasis in schools on reading and math scores, and along with this increased educational programming focused on indoor learning of reading and math and decreased outdoor programming for science-based learning. Djonko-Moore et al. (2018) state that "children who live in urban settings do not have a deep understanding of the environment, natural resources, ecosystems, or the ways human activities affect nature" (p. 138). Their study looked at a weeklong outdoor learning experience for science-based learning. They concluded that the outdoor learning experience "had a positive impact on children's learning, engagement, and interest in science" (Djonko-Moore et al., 2018, p. 150.) This article supports the notion that children are getting less access to outdoor play due to more of a focus on indoor activities, while also stressing the increased need for programming that allows for outdoor learning which has a positive impact on children's interest and engagement in learning.

Djonko-Moore et al.'s (2018) study discussed one of the structural reasons (increased focus on reading/math, decreased focus on science and outdoor education) that is preventing children from spending time in nature. While there is a lot of blame put on individuals and children in general (too much time on electronics, for example) there are larger systematic and structural reasons that affect large groups of people and not just children. Moore (1997)

discussed some of these, like urban development and the commercialization of play. Looking larger, race and nature access are important to discuss. Byrne (2012) published a study that focused on the Latino population in Los Angeles, California and discussed access to the Santa Monica Mountains National Recreation area. In this study, social and structural reasons why the focus group did not access the park as much as they would have liked were discussed. For example, structural reasons such as zoning codes, proximity to the park (long travel times to get there), and limited public transportation as potential barriers. Social limitations included fear of traveling through predominantly white neighborhoods that surround the park to get there, signs that were only in English and did not include Spanish, or the "potential experiences of racism" (Byrne, 2012, p. 604). The interaction between these factors could play a larger role in why children of these families are not experiencing nature on a day-to-day basis. Strife and Downey (2009) support this finding stating that "minority and low-income youth are less likely than White and higher-income youth to have adequate access to and positive experiences in green spaces and nature" (p. 111). Structural barriers regarding race and nature access are a large part of children having challenges accessing nature.

In his 2008 book, *Last Child in the Woods: Saving Our Children from Nature-Deficit Disorder*, author Richard Louv discusses in depth some of the downfalls of children spending less and less time in nature. He has coined the term nature-deficit disorder, not as a medical diagnosis, but one that draws attention to the overall effects on children that decreasing time spent in nature is having on the culture of childhood. He describes nature-deficit disorder as "the human cost of alienation from nature, among them: diminished use of the senses, attention difficulties, and higher rates of physical and emotional illnesses" (Louv, 2008, p. 36). As one can imagine, all the positive outcomes from children spending time in nature that were discussed

above may have the opposite effect when those opportunities decrease or become non-existent. Drawing attention to the first part of Louv's (2008) description of nature-deficit disorder, it is interesting to think about the effect on children's sensory learning and the lack of natural input that kids get when they are not in nature. Increases in activities like watching TV and computer/video games give children a lot of visual and auditory input, but minimal touch, proprioceptive, smell, and taste access. These activities are so heavily auditory/visual based that they may potentially overwhelm the system forcing the brain to block out other sensory inputs to attend and focus on that one task. It is the position of this paper that children benefit from time in nature so that all their senses can be activated.

While the COVID pandemic has been a challenging time for many people across the world, some researchers are looking for positive outcomes during this time of upheaval. Friedman et al. (2021) studied the impact of Covid on children's connection to nature. In contrast to Moore (1997) and Louv (2008), Friedman et al. (2021) found that the interruption that Covid had on normal routines and life structures had some benefit to getting children outside. In 2021 in the UK, 376 families participated in research involving the pandemic and children's connection to nature. The results found that "most parents in this UK-based study reported an increase in their child's connection to nature" and that "children experiencing an increase in connection to nature were likely to have lower levels of behavioural and emotional problems" (Friedman et al., 2021, p. 159). The article discussed possible reasons for the increased connection to nature, those being more time at home and more time to get outside due to this increased time at home, fewer obligations away from home due to lockdowns, and due to less traveling, families were able to explore more local access to nature. It is noteworthy that while this paper does not have the capacity to discuss the impact of socioeconomic status on a child's

access to nature, this study did find correlation for more affluent families having increased time and access to nature, thus having greater connection to nature results. This is compared to families with lower socioeconomic status who were not as likely to be able to access nature during this period. This is an impetus for local school programming to include nature activities so that all children can benefit from time in nature. Capitalizing on the phenomenon that COVID creating and working to get children outside more is a valid goal working towards giving children access to the benefits that nature provides. There is hope in finding ways to increase opportunities for children to get outside.

Louv (2008) does provide hope and determination for being an active participant in increasing opportunities for children to get outside. His book provided many suggestions for increasing children's access to nature. From an individual level (e.g., parent/child relationship) to systemic suggestions (e.g., school-based suggestions) to policy level suggestions (e.g., political activism), Louv provides direction for moving forward to combat nature-deficit disorder. Louv (2008) states:

> Healing the broken bond between children and nature may seem to be an overwhelming, even impossible, task. But we must hold the conviction that the direction of this trend can be changed, or at least slowed. The alternative to holding and acting on that belief is unthinkable for human health and for the natural environment. (p. 309)

The remainder of this paper will focus on combatting the effects of nature-deficit disorder exploring meaningful ways for children to spend time in nature, with a focus on mindfulness and increasing sensory learning/experience in the natural environment.

Mindfulness in Nature

Jon Kabat-Zinn (2005) defines mindfulness as, “moment to moment, non-judgmental awareness, cultivated by paying attention in a specific way, that is, in the present moment, and as non-reactively, as non-judgmentally, and as openheartedly as possible” (p. 108). Practicing mindfulness in nature is a valuable tool in being able to connect to the Earth. There are many activities one can engage in when spending time outside. Individual and non-structured activities include acts such as just wandering through the woods. Slightly more structured activities can include gardening, plein air painting, or collecting trash on the side of a road. Highly social and structured activities can be those such as sporting events or barbeques. These are all great examples of getting outside of the confines of walls and experiencing the benefits of the natural world. For this paper, the focus will highlight mindful pursuits of connecting with nature.

Mindfulness can be brought to any situation, whether alone or in a group, as part of a free or structured activity, or as one with an anticipated outcome or no outcome at all. Mindfulness research has included the concept of studying the effect of mindfulness and nature together. Nisbet et al. (2019) found that a short guided mindful walk in nature provided participants with an increased connection to nature and improved mood on self-report measures when compared to control samples who engaged in the same mindfulness activity indoors. Other research that discussed the benefits of specific mindfulness-based activities in nature includes improvement in stress measures after mindful activities in nature as compared to a walk group (Ray et al., 2021), improved views of well-being in participants with chronic pain (Johnson, 2018), and results of a meta-analysis connecting mindfulness and nature showing statistically significant interpersonal, physiological, and psychological effects (Djernis et al., 2019). It is important to recognize that all four of these articles discussed mindful activities in nature, not just engaging in mindful

activities. Nature and mindfulness together may have a powerful collaborative role in outcomes of well-being and nature relationships. These studies focused on adults and while it is helpful to examine the results and methods, it is also important to look specifically at studies involving children when in pursuit of designing effective tools for mindfulness practices in nature for children.

Barrable et al. (2021) tested their hypothesis that mindful activities in nature for children would be beneficial to encourage a positive relationship with nature. The methods included 74 nine- and ten-year-old children during a field trip to a nature preserve. During their field trip to the nature preserve, the students participated in three mindfulness-based activities. The activities involved sensory stimulation and guidance to pay attention to sensation, such as mindful listening tasks, visual mindful tasks, and a movement task in which students could move around and be active as part of the mindful activity. It was found that "even a short (half-day) intervention, such as this one that included a series of mindful engagements with the natural world, could be of benefit to children in supporting the building of a positive relationship to the natural world" (Barrable et al., 2021, p. 9). This is a promising find in developing opportunities for exposing children to nature during school-based activities as part of the learning process. The mindfulness-based activities were opportunities for children to use their sensory perceptions to engage in nature in novel ways, perhaps drawing attention to learning that they may not have achieved in an indoor setting. One limitation of this study was that it looked relatively short term at the results of the intervention. Students took a pre- and post-test on a variety of measures before and after the field trip. However, the lasting effects of the benefits of this specific intervention are unknown.

Reflecting on the definition that Kabat-Zinn (2005) has presented for mindfulness, and combining mindfulness in nature for children, the direction of this thesis will be to explore the use of sensory awareness that mindfulness can bring to being present. Being present in the moment is a skill that can be applied to children in nature. Bringing attention to the sensations they are experiencing can increase awareness of that moment. This awareness can increase the connections between nature and their own experiences and memories.

Sensory Learning Through Mindfulness in Nature

In his 2006 book on mediation in nature titled *Awake in Nature,* Coleman brilliantly offers a variety of mindful experiences for readers to connect to nature. He uses suggestions as part of his offerings that engage all of one's senses as part of meditation practices. He states, "Tuning into our senses in nature invites presence and joy" (Coleman, 2006, p. 69). Allowing the readers to participate in these mindful experiences engages the sensory body, drawing sensory attention to experiences that one might not have noticed if not guided to pay attention. Hopefully, bringing presence to the sensory experience can bring joy. Understandable, at times there might not always be joy, for example, if one gets cold while outside. However, it is the hope that by spending time in nature and attending to sensations, one can open new worlds for exploration, positive experiences, memories, and joy. Sensory learning and attention to the moment are important skills for adults and children alike to strengthen. Children are natural sensory learners, learning through the experiences of their everyday lives.

There are five commonly known sensations to discuss when discussing sensory learning, the first five being smell, taste, touch, sound, and sight. These are the sensations that have a direct sensory input organ as part of the body; smell-nose, touch-skin, etc. A less-known sensation is that of proprioception. Proprioception applies to one's perception of where they are

in space, without the influences of the other senses. For example, in a dark room where one's vision is removed, they are still able to know where their body is situated within that room. They can tell if their arm is up in the air or down by their side. This is important for experiences in nature, as it is important to be able to feel where one is in connection to the Earth. As a person feels the sensation, the mind and body then work together to process that sensation. Practitioners who work in the field of occupational therapy often work with people who have challenges with processing sensations. Jane Ayers was a founding theorist that influenced this field of practice. One of the current definitions that describe this work is that of Kranowitz (1998) who defines sensory integration as "the neurologic process of organizing the information we get from our bodies and from the world around us for use in daily life" (p. 42) and modulation as the mechanism that "balances the flow of the sensory information coming into the central nervous system" (p. 43). The combination of integration and modulation allows one to take in sensory input, in this case, from nature, and process that information for tasks such as memories; physical responses, such as turning your head towards the warmth of the sun; and reaction, such as jumping down from a log if one starts to lose their balance. Children can learn about their own sensational processing, which starts with learning about each sensation one at a time. Making a cognitive connection between the body sensation and the mind's perception of that sensation can be an important part of body awareness.

The process of being aware of the sensations and then understanding what is happening in the body or understanding what the body needs are a concept called interoception. Craig (2002) discussed that interoception "constitutes a basis for the subjective evaluation of one's condition, that is,'how you feel'" (p. 655). Interoception has a place in both sensory awareness of the body and mindful attention to what sensation means within the function of the body and

mind. For example, a very basic example of the bodily process is being mindful of the sensation of a full bladder and then that sensation informing a cognitive decision and physical action to go to the bathroom. A higher-level process of interoception could be the recognition that there is a sensation of tightness in the stomach and being able to connect that to an emotion. Perhaps one is anxious about an upcoming test. Being mindful of the sensation that they feel in their body can encourage the child to recognize the emotion that they are experiencing in their mind. If they can recognize the emotion, then they may be able to use strategies to manage that emotion. For example, with an emotion of anxiousness, they may try taking a deep breath, moving their body, or talking to an adult. It begins with recognition of the sensation. This makes teaching children about recognizing sensations in their bodies so important. Mahler (2019) discussed the ability to engage in this type of self-regulation or awareness of interoception as "the ability to identify and manage how you feel" (p. 2). Children need opportunities and explicit teaching to learn to be mindful of the sensations in their bodies and the connection between sensation and emotion. Being able to successfully self-regulate first must come with the ability to understand the sensations of the body.

Mindfulness can be a tool in teaching children the systematic exploration of sensations. Mindfulness is the practice of bringing attention to the present moment. Mindfulness practices, such as a body scan, encourage a person to bring the attention of the mind to the sensation of the body at that very moment. In his book titled *Full Catastrophe Living,* Jon Kabat-Zinn (2013) describes his Mindfulness Based Stress Reduction program which is used to assist people with stress, illness, and chronic pain manage their symptoms. One of the first practices that is utilized in this program is the body scan. Kabat-Zinn (2013) notes that the purpose of starting the program with the body scan is to assist people to connect to their bodies. He states, "the idea of

scanning your body is to actually *feel* and *inhabit* each region you focus on" (Kabat-Zinn, 2013, p. 78). This type of attention and focus utilized during the body scan is to help adults with awareness of their bodies instead of focusing on the parade of thoughts that can inhabit the mind. This concept of attention and focus on the body is expanded in a teacher's guide and lesson plan for educating children about sensational awareness in nature, called *Attentive Earth and Body*. This program uses principles of the body scan while also including learning about one sensation at a time. *Attentive Earth and Body* combines practices of mindfulness, such as scanning the body, with attentive focus on how the sensations of nature are experienced in the body. Mindfulness principles of attending to the moment paired with guided instruction to focus on one sensation at a time can allow children experiences to learn about their own bodies in the moment. Recognizing that each moment is new, one can notice how sensations can change from moment to moment. For children, separating one sensation at a time and talking directly about that sensation in relation to how their bodies feel can be a learning experience. If there are a lot of sensations happening at once, it can be overwhelming. Being able to concentrate on one sensation at a time can be a calming practice.

The research is supportive of the collaboration between sensational awareness, mindfulness, and interoception. It is also supportive of mindfulness in nature and using rich sensory environments in nature to build mindfulness skills. Other research stated above also indicates that children thrive in nature, gaining many benefits of this dynamic space. This creative thesis, *Attentive Earth and Body*, will aim to connect all of these concepts in one project. The intent of *Attentive Earth and Body* will be to teach children about sensations one at a time using the sensation of nature. The following study supports this endeavor. Beery and Jørgensen (2018) discussed the intersection of two studies on sensory experiences in nature and come up

with their conclusions about the power of sensory experience: one that looked retrospectively at adult memories of their childhood experiences and one that presently studies children's sensory learning and memories during free play in nature. One conclusion that they made was "The strength of the sensory memories and the regular observations of rich sensory immersion highlight the potential value in direct experiences in which children, through their own agency, can make connections with the biotic/abiotic variety of nature" (Beery & Jørgensen, 2018, p. 21). From the adult study, they found that the adults were able to remember the sensations of their memories of nature experiences. The details about the smells of nature or the feel of nature were still strong in the adult memories. From the children's study, they observed the actual immersion that happens when children get invested in activities in nature. They also found that "The small children's playful exploration in and of the environment were closely connected to ecological knowledge" (Beery & Jørgensen, 2018, p. 21). Building memories and ecological knowledge about nature can tie into research discussed previously regarding encouragement of pro-environmental behaviors in the future.

Discussion

This literature review has informed the development of a creative thesis project that combines the four concepts of childhood learning, nature, body awareness/sensation, and mindfulness. While academic pressures have increased for testing scores, the literature supports the need for students to also have programming that includes social and emotional growth taught as part of their school day. The teachers' guide and five lesson plans focus on using the natural world and mindful awareness of sensations to teach students about their bodies and their connection to others and the Earth.

The major themes of this literature review have informed the creation of this teachers' guide. The first theme found that time in nature is beneficial for children's physical, mental, and emotional well-being. However, despite the documented benefits, due to a variety of reasons and systemic structures in America, children are spending less time in nature. To address this contradiction, the goal of *Attentive Earth and Body* is to get children outside more. Doing this during the school day is a natural place for inclusion of more outside time, as children spend a large portion of their days in school. This first theme has been the guiding factor in the creation of this teacher's guide. The following themes helped to establish the structure and content of the *Attentive Earth and Body* lesson plans. Each lesson plan was designed to have elements that take place outside of the classroom wall and in the natural environment, no matter what setting of the school.

Another main theme that arose from the literature review was that being mindful while in nature is a way to build self-awareness. The natural environment provides sensory rich opportunities for one to attend to how the sensations around them can affect their bodies and mental state. Mindful activities such as slow walking or body scans draw attention to specific bodily sensations that may differ from when doing them inside the boundary of walls. This information assists with the creation of this thesis by supporting the use of nature as a tool to teach children self-awareness. To represent the research supporting teaching children about self-awareness and introspection, each lesson in the guide has concrete learning activities teaching students about sensation, paying attention to sensations around them, and reflecting on how those sensations feel in the body. Children's literature is included in each lesson to provide cross-curriculum learning between reading and language development alongside learning about sensation. As the lessons progress, students will be guided to make connections between the

sensations they feel in their bodies and make connections to emotions that they feel. Each lesson has an educational component that concretely teaches about sensation and then a moment in nature experience in which children are encouraged to apply that learning to themselves. The goal is for students to increase self-awareness through these exercises. Nature is used as a tool to provide a sensory rich environment for children to learn about sensations through experiential activities.

Finally, the research presented above demonstrates that childhood connections to nature can encourage lifelong pro-environmental behaviors. Each lesson in *Attentive Earth and Body* includes a moment in nature experience, a nature sensory based activity, and a reflection. These sections of the lesson have been added to the plan based on the research that childhood connections to nature can encourage the development of behaviors that are healthy for the earth. The lessons are designed to be fun and allow students autonomy in exploring their environment and how it makes them feel. The lessons progress and culminate in a team building activity that encourages students to work together. The final lesson provides teachings regarding conservation to encourage students to begin thinking about how their actions can affect larger systems such as their classroom, their school, and the earth. The overall goal of this project is to provide teachers with confidence to add environmental and sensation-based education for their students into their curriculum.

Conclusion

Studying children and nature is an expansive topic. The limitations of this literature review are that there are many paths that were not discussed. Of particular interest are the intersections of socioeconomic status and access to nature; review of current environmental programs and their impacts on participants; urban vs suburban vs rural access to nature; climate

change issues regarding children's interest in nature; and the effects of free play when compared to structured play in nature. These topics are by no means less meaningful and are worth mentioning for future literature reviews and program development.

Research has demonstrated that there are many positive benefits, from physical to psychological, for children spending time in nature. However, trends are showing that despite the known benefits, children are spending less time in nature for a multitude of reasons. This trend can have detrimental effects on not only the individual child but also the planet. Creating a space for children to develop an emotional connection to the environment can be both personally impactful and at the same time can create environmentally conscientious humans who are more likely to engage in pro-environmental behaviors. Programs and activities for young children that positively engage them in a multi-sensory way with the outside environment are essential to bringing children back to nature. Developing programming that uses mindfulness techniques is one way to engage children positively in nature. Bringing mindful attention to the sensory systems of a child as they are learning in nature may produce positive associations with nature, thus impacting the child's nature relationship for their lifetime.

References

Adams, S., & Savahl, S. (2017). Nature as children's space: A systematic review. *Journal of Environmental Education, 48*(5), 291–321. https://doi.org/10.1080/00958964.2017.1366160

Barrable, A., Booth, D., Adams, D., & Beauchamp, G. (2021). Enhancing nature connection and positive affect in children through mindful engagement with natural environments. *International Journal of Environmental Research and Public Health, 18*, Article 4785. https://doi.org/10.3390/ijerph18094785

Barrera-Hernández, L. F., Sotelo-Castillo, M. A., Echeverría-Castro, S. B., & Tapia-Fonllem, C. O. (2020). Connectedness to nature: Its impact on sustainable behaviors and happiness in children. *Frontiers in Psychology, 11*, 1–7. https://doi.org/10.3389/fpsyg.2020.00276

Beery, T. & Jørgensen, K.A. (2018). Children in nature: Sensory engagement and the experience of biodiversity. *Environmental Education Research, 24*(1), 13–25. https://doi.org/10.1080.13504622.2016.1250149

Byrne, J. (2012). When green is White: The cultural politics of race, nature and social exclusion in a Los Angeles urban national park. *Geoforum, 43*(3), 595–611. https://doi.org/10.1016/j.geoforum.2011.10.002

Chawla, L., Keena, K., Pevec, I., & Stanley, E. (2014). Green schoolyards as havens from stress and resources for resilience in childhood and adolescence. *Health & Place, 28*, 1–13. https://doi.org/10.1016/j.healthplace.2014.03.001

Cheng, J. C-H & Monroe, M. C. (2012). Connection to nature: Children's affective attitude toward nature. *Environment and Behavior, 44*(1), 31–49.

Coleman, M. (2006). *Awake in nature: Mindfulness in nature as a path of self-discovery*. Inner

Ocean Publishing.

Craig, A. D. (2002). How do you feel? Interoception: The sense of the physiological condition of the body. *Nature Reviews Neuroscience, 3*(8), 655. https://doi-org.ezproxyles.flo.org/10.1038/nrn894

Dankiw, K.A., Tsiros, M.D., Baldock, K.L., Kumar, S. (2020). The impacts of unstructured nature play on health in early childhood development: A systematic review. *PLoS ONE 15*(2). Article 0229006. https://doi.org/10.1371/journal.pone.0229006

Djernis, D., Lerstrup, I., Poulsen, D., Stigsdotter U., Dahlgaard, J., & O'Toole, M. (2019). A systematic review and meta-analysis of nature-based mindfulness: Effects of moving mindfulness training into an outdoor natural setting. *International Journal of Environmental Research and Public Health, 16*(17), Article 3202. https://doi.org/10.3390/ijerph16173202

Djonko-Moore, C. M., Leonard, J., Holifield, Q., Bailey, E. B., & Almughyirah, S. M. (2018). Using culturally relevant experiential education to enhance urban children's knowledge and engagement in science. *Journal of Experiential Education, 41*(2), 137–153. https://doi.org/10.1177/1053825917742164

Friedman, S., Imrie, S., Fink, E., Gedikoglu, M., & Hughes, C. (2021). Understanding changes to children's connection to nature during the COVID-19 pandemic and implications for child well-being. *People & Nature, 4*(1), 155–165. https://doi.org/10.1002/pan3.10270

Hinds, J., & O'Malley, S. (2019). Assessing nature connection and well-being during an experiential environmental program. *Children, Youth & Environments, 29*(2), 92–107. https://doi.org/10.7721/chilyoutenvi.29.2.0092

Johnson, S. (2018). *Salutogenesis in action: A nature based "mindfulness for health and wellbeing" programme and its impact on daily life* (Publication No. 738496). [Doctoral Thesis, Lancaster University, University of Cumbria]. http://insight.cumbria.ac.uk/id/eprint/3680/

Kabat-Zinn, J. (2005) *Coming to our senses: Healing ourselves and the world through mindfulness.* Hyperion.

Kabat-Zinn, J. (2013) *Full catastrophe living: Using the wisdom of your body and mind to face stress, pain, and illness.* Bantam Books Trade Paperback.

Keith, R. J., Given, L. M., Martin, J. M., & Hochuli, D. F. (2021). Urban children's connections to nature and environmental behaviors differ with age and gender. *PLoS ONE, 16*(7), 1–22. https://doi.org/10.1371/journal.pone.0255421

Krajhanzl, J. (2010). Environmental and proenvironmental behavior. *School and Health, 21*(1), 251–274.

Kranowitz, C. S. (1998) *The out-of-sync child: Recognizing and coping with sensory integration dysfunction.* Skylight Press.

Li, D., Deal, B., Zhou, X., Slavenas, M., & Sullivan, W. C. (2018). Moving beyond the neighborhood: Daily exposure to nature and adolescents' mood. *Landscape & Urban Planning, 173,* 33–43.

Li, D., Menotti, T., Ding, Y., & Wells, N. M. (2021). Life course nature exposure and mental health outcomes: A systematic review and future directions. *International Journal of Environmental Research and Public Health, 18,* Article 5146. https://doi.org/10.3390/ijerph1810514

Louv, R. (2008) *Last child in the woods: Saving our children from nature-deficit disorder.*

Algonquin Books.

Mahler, K. (2019) *The interoception curriculum: A step-by-step framework for developing mindful self-regulation.* Kelly-Mahler.

Moore, R.C. (1997). The need for nature: A childhood right. *Social Justice, 24*(3), 203–220.

Nagata, M., & Liehr, P. (2021). Urban children's well-being factors and qualities of being and doing in natural space: Nature immersion. *Journal of Holistic Nursing, 39*(2), 174–184.

Nel, A., Joubert, I., & Hartell, C. (2017). Teachers' perceptions on the design and use of an outdoor learning environment for sensory and motor stimulation. *South African Journal of Childhood Education, 7*(1). https://doi.org/10.4102/sajce.v7i1.482

Nisbet, E.K, Zelenski, J.M., & Grandpierre, Z. (2019) Mindfulness in nature enhances connectedness and mood. *Ecopsychology, 11*(2), 81–91. https://doi.org/10.1089/eco.2018.0061

Okur-Berberoglu, E. (2021). Some effects of unstructured outdoor plays on a child: A case study from New Zealand. *International Electronic Journal of Environmental Education, 11*(1), 58–78.

Ray, T. N., Franz, S. A., Jarrett, N. L., & Pickett, S. M. (2021). Nature enhanced meditation: Effects on mindfulness, connectedness to nature, and pro-environmental behavior. *Environment & Behavior, 53*(8), 864–890.

Sobko, T., Jia, Z., & Brown, G. (2018). Measuring connectedness to nature in preschool children in an urban setting and its relation to psychological functioning. *PLoS ONE, 13*(11), Article 0207057.https://doi.org/10.1371/journal.pone.0207057

Strife, S., & Downey, L. (2009). Childhood development and access to nature: A new direction

for environmental inequality research. *Organization & Environment*, *22*(1), 99–122.

Wells, N. M., & Lekies, K. S. (2006). Nature and the life course: Pathways from childhood nature experiences to adult environmentalism. *Children Youth and Environments*, *16*(1), 1–24. https://doi.org/10.7721/chilyoutenvi.16.1.0001

Creative Thesis

Attentive Earth and Body: Teaching Self-Awareness Through Mindful Sensory Experiences in Nature

A child's work is to play. Through play, learning takes place. Play can take place in any environment and happens throughout a child's entire day. A dynamic and enriching space for learning to occur is outside in nature. Nature in relation to a child's play space can describe any experience that is outside and is not bound by the limits of walls. The purpose of this teacher's guide is to provide lessons for early childhood educators to teach self-awareness through mindful attention practices using the sensations of nature. Research supports the benefits of children spending time in nature. The benefits impact children in a variety of ways, including physical, cognitive, and mental/emotional wellness (Adams & Savahl, 2017; Chawla et al., 2014; Dankiw et al., 2020; Hinds & O'Malley, 2019; Li et al., 2018; Nagata & Liehr, 2021; Okur-Berberoglu, 2021). A summary of these studies shows that children who spend time in nature display increased creativity, self-confidence, observation skills, feelings of hopefulness, physical activity, health-related fitness, motor skill growth, attention, focus, relaxation, as well as less impulsivity, improved peer relationships, and an improvement in mood.

The outcome of children spending time in nature could be larger than just the impact on the health and well-being of that child. Teaching students about conservation and the health of the Earth happens in many classrooms and can be accomplished in many ways. Research shows that emotional connections to nature for children happen while actively engaging with nature (Adams & Savahl, 2017; Cheng & Monroe, 2012; Keith et al., 2021; Wells & Lekies, 2006). The emotional connections and memories that are made can impact lifelong pro-environmental behaviors. Education that aims to encourage pro-environment behaviors should include hands-on

opportunities for a connection to nature to form. Actively participating in pro-environmental behaviors can be recycling, conserving water consumption, using renewable energy sources, advocating for renewable energy at the local level for communities, and many more. The lesson plans included in this guide aim to provide many sensory-rich opportunities for students to engage with nature, form body and mental memories and hopefully deepen their connection to the Earth.

Sensory Background

There are many ways children can play and learn in nature, from free play to structured games and sports. The lessons in this guide focus on mindful attention training to sensation. Children are natural sensory learners, learning through the experiences of their everyday lives. As discussed in the rationale portion of this project, sensory learning is an integral part of students developing interoception, or as Craig (2002) discussed, that which "constitutes a basis for the subjective evaluation of one's condition, that is, 'how you feel'" (p. 655). There are several theoretical backgrounds that explore the discussion of sensation, interoception, and body awareness. *Attentive Earth and Body* is designed from my personal background as an occupational therapist. Foundational theoretical training for occupational therapists includes that of Jean Ayers and her work with sensory integration. More recently, another occupational therapist, Mahler, has built upon the theories of sensory integration and developed a curriculum that includes the concept of interoception. Mahler (2019), discussed the ability to engage in this type of self-regulation as "the ability to identify and manage how you feel" (p. 2). Interoception has a place in both sensory awareness of the body and the mindful attention to what the sensation means within the function of the body and mind.

Theoretical principles of mindfulness lend to the concepts of sensory awareness by bringing particular attention to the present moment. By attending to the present moment, one can use sensations to ground themselves into what they are experiencing right now. This guide uses the principles of sensory awareness and attention to the present moment to guide students to be more aware of sensation and their bodies. Being able to cognitively recognize sensation and how it is making their bodies feel is the first step in being able to be an active advocate for their needs. Both examples speak to the importance of giving children opportunities to learn to be mindful of the sensations in their bodies and how to make informed decisions on how to respond to the sensations. Being able to successfully self-regulate first must come with the ability to understand the sensations of the body. Combining these concepts (attention to sensation, the rich sensational power of nature, and the effect of attention to nature on the whole body and mind experience) the theoretical backgrounds rooted in forest therapy and forest bathing also lend a guide to *Attentive Earth and Body.* The work of Amos Clifford (Association of Forest and Nature Therapy) and Qing Li (Forest bathing) has enhanced the ideas of the power of nature and the effects of nature on one's well-being. Particularly, in Lesson four, you will see the influence of the theories and practices of forest therapy and forest bathing. The combination of works of many scholars in the fields of mindfulness, occupational therapy, forest bathing, and forest therapy have all guided the development of *Attentive Earth and Body.*

Time in the classroom flies by with all the academic requirements that are expected. However, the hope is that by taking time to incorporate learning that is focused on body awareness and interoceptive learning, your classroom routines will run smoother with students who are more self-aware, mindful of big emotions, and can become problem solvers who can

assess the resources available. In this context, the environment of your classroom can become a safe place in which students are ready to learn.

Mindfulness vs. Attention Training in Schools

The term mindfulness can be closely tied to the term meditation. Meditation has historical backgrounds in many religious practices, and thus when using mindfulness tools in the classroom, it is important to be deliberate and clear about how mindfulness in the classroom is not a religious practice. In *Attentive Earth and Body*, the concepts of mindfulness that are utilized are not linked to any religion or religious practices. The term mindfulness refers to a person's ability to attend to the sensations of the present moment. Using this definition of mindfulness, many times throughout this lesson plan, the term attention training will be utilized to describe the exact action that is taking place.

Teacher Tips for Getting Students Outside

It is important to recognize that the classroom expectations of what needs to fit into an academic day are already high. Choosing to incorporate additional lessons for learning about how to mindfully attend to sensation and teach children body awareness could seem like added pressure. Choosing to take them outside could add even more pressure on the time constraints of the daily schedule. The following section is designed to help make the process of getting students out into nature for experiential learning as smooth and time efficient as possible.

Preparation for Parents

No matter what environmental setting you are in, the students in your classroom have the right clothing for outside learning. This starts with making the parents in your classroom aware that outside learning will be taking place. You may want to consider the most efficient way for you to pass on this information to parents while asking them to send in the proper clothing for

outdoor activities. If you already do a classroom newsletter, adding in the new outside learning would fit into this context. You may want to send home a parent letter, stating that you will be engaging in some outside learning during your daily lessons and you are requesting proper clothing on those days. Parents are also busy and will benefit from any routines that you can put into place. When you are lesson planning, consider a consistent schedule for when you would like them the bring in additional clothing for outside learning. Maybe this already happens, as students are already going outside for recess. When describing the content of what is included in the following lessons, take into consideration the section titled Mindfulness vs. Attention Training.

Preparation for Students

Routines and expectations/boundaries are so important for the success of any new learning opportunity. You may already have set expectations for walking in lines or the hallways. Discuss the extension of these expectations for when you are walking outside. Maybe in the week before you start your lessons you take some time to go outside and practice these expectations before you even begin the lessons. Take a walk outside and practice setting boundaries about how you would like students to behave.

Preparation for Teachers

Choosing the best environment for engaging in these lessons could be a fun and mindful practice for yourself. Take some time in the space around your school to be in nature by yourself, alone, before you attempt to take a classroom full of students. Read through the lessons quickly so that you have an overall view of what they entail, and then spend some time exploring your outside environment to find an appropriate area for learning. Sit in the spaces on your own and pay attention to the sensations that are present, the sensations that you feel, and take stock of

how your body feels in this space. Your time spent in nature can lead you to make decisions for your students that are conducive to learning. You also deserve the time spent alone in nature. You are about to embark on a journey to teach your students the powerful effects that nature can have on their self-awareness and ability to self-regulate. You deserve that experience as well. Take some time alone in nature, and pair it with the environment to guide you in choosing spaces that work for both you and your students.

Adaptations for Diverse Learners

Trauma Informed Care

While the goal of this guide is to provide students with positive experiences in nature, that might not be the reality for every student in your classroom. Bringing attention to feelings and sensations can be a very sensitive and scary idea to some students, especially if students have experienced trauma in their lives. Suggestions that seem simple, like closing their eyes while outside, might not be so simple for all your students. Using a trauma-informed care approach for using mindfulness in schools is important because your classroom is filled with many unique individuals who come with diverse experiences. The key to this is making sure children understand that the directions during the lessons are invitations and are not mandatory. Giving options so that children can experience the exercises in a variety of ways and in ways that they feel safe is important. While the invitation may say to “close your eyes,” some children may feel safer with their eyes open, and that is a great modification. All instructions in the lessons are invitations.

In lesson one, the book chosen and one of the key themes you are led to discuss speaks about emotions as waves that roll in and come and go. Some come in as large waves, but they always also go out. You may want to have some preparatory discussions with students about

emotions. During these discussions, it is important to state how all emotions are ok, even the ones that feel hard. Practicing attention to sensations and body awareness may not always be comfortable for students. Discuss emotions in neutral terms, being careful not to place judgment on emotions. Big feelings of sadness, fear, anxiety, and anger are not bad or negative and feelings of happiness, relief, hope, and excitement are not good or positive emotions. They are all just emotions that come and go, and they inform us about the situations that we are in. This may create a feeling of safety for students who may have experienced trauma, as they will know that you accept them for who they are no matter what emotions they feel.

There are resources within your school if you have any concerns about leading these lessons with specific students in your classroom. Reach out to your school mental health team, counselors, and/or school psychologists to discuss any student that you might be concerned about. Another resource is an article on the Mindful Schools website written by Poonam Desai, Ph.D. (n.d) that describes ways to make your classroom supporting for students who have experienced trauma. This resource is full of information that can help to understand what happens when a child experiences trauma. It also provides eight concrete steps that you can use in your classroom to help students who have been through traumatic experiences.

Differentiation

All classrooms are unique with a variety of student characteristics that help to make the classroom a dynamic place to learn. Differentiating lesson plans to meet the needs of every student is a task that teachers accomplish daily. The following suggestions are differentiation strategies that can be used to enhance the lessons and make sure the content is accessible to a wide variety of learners in the classroom.

For students who have challenges with transitions, consider taking them alone to the outside space so that they have time to process that they will be learning in a different environment. If you can't take them alone, take a picture of the space and use the visual prompt to prep students for where you are headed before you leave the classroom. If you have students with physical challenges, you will need to consider the route and outside space that you choose. For example, if students use a wheelchair or forearm crutches, it will be important to make sure that access to your chosen spot has ramps, is level, and is free of obstacles. For students that have sensory sensitivities or are highly distractable, a small carpet square or blanket may be helpful to give a barrier between the direct ground and where the student is sitting. While we want to allow students the opportunity to learn through experiencing sensation, the feeling of their whole bodies on the ground might be too overwhelming for the first lessons. Use your judgment as the students explore nature and the routines to decide when (if ever) to remove this support. An additional support for students who are distractable is to provide a clear structure of what the plan for the learning time is. Students might need a visual schedule so that they know exactly what to expect. Your special education team can help with making a visual schedule for your lessons if you are not familiar with making visual schedules.

Scope and sequence

Scope	The goal of the following lessons is for each student to increase attention to body sensations during experiential learning in nature.				
Sequence	Lesson 1: The power of sensation: Connecting to our bodies	Lesson 2: Can you hear the Earth?	Lesson 3: So much to see: Exploring Wonder	Lesson 4: Feeling Nature	Lesson 5: Connection: Becoming a guardian of the Earth
Outcome	The student will be able to recall or express learning through verbal or visual representation of sensations experienced through learning in nature. This could look like a body map of sensations or verbal expression of learning to the teacher through writing or words. The goal at the end of the five lessons is that students have increased their recognition of sensations and how sensations are felt in their bodies. Having identified sensations, they can then gain insight into how sensation and emotions are connected. When they can identify emotions and how it effects how their bodies feel, students can then make decisions on how to respond to their own needs and emotions. Providing sensory experiences in nature gives strategies for responding to their big emotions.				

Lesson 1 focuses on sensory awareness and recognizing how sensations affect one's body and emotions. This lesson begins the exploration of sensation in nature and lets students begin to work on attention to sensations in a rich natural environment. Lessons 2 and 3 dive deeper into sensory awareness and focus on direct sensational experiences, particularly for sight, touch, smell, and body in space awareness. Lesson four makes the connection between sensation and emotional awareness. It also introduces ways to recognize big emotions and how nature can be a tool for the management of big emotions. Lesson five wraps up with education around human interconnection and conservation of nature.

Each lesson is broken down into four components: Literature, Moment in Nature, Experiential Activity, and Reflection. The literature selected sets the tone of learning for the lesson. It provides teachers and students with a visual and auditory introduction to the topic for the lesson. This section also provides suggestions for classroom discussions, vocabulary, and key topics to discuss before moving into the experiential learning sections of each lesson. It is best to

have a hard copy of the book to read from. Children are then able to access this book for future learning and hands-on experiences with reading the book. However, as resources are often limited in the classroom setting, a YouTube link will also be provided for each book that can be used to access the literature. If using the online access, please make this section interactive by stopping the video when appropriate and the engaging class in conversation to address main points or key concepts.

The moment in nature section of the lesson is the attention training portion. This section is intended to happen outside, in whatever environment is appropriate for your school setting. If you are in an urban area, this may be the school playground or athletic field. If you are in a rural setting this may be in a nearby forest or field. The attention training activities are focused on the sensations of nature and bring attention to how these sensations feel to each student. These are intended to be concise so that students can build their capacity to pay attention to body sensations in short intervals, working to longer intervals as able and appropriate. This is bound to differ for each student, but the hope of keeping this section short is to make this a successful activity for all students. The goal of the experiential activity is for students to have fun while exploring the connection between sensation and nature. This section is also intended to be outside.

The final section is reflection. This section could happen outside, but you may want to consider doing this section once you get back to the classroom. Doing a reflection in the classroom may give students time to process the experience as they are transitioning from the outside back into the classroom. Doing it back in the classroom may also provide a connection to nature affecting our body's feelings even after returning inside. The reflection portion of each lesson is the same. The reflections were designed this way so that as the lessons progress,

students know what to expect at the end of each lesson. Knowing what to expect at the end of the lesson can give a sense of closure to the activity. It will also allow the students to grow with their reflection skills if the element of learning the process is taken out of the task. Knowing the process will allow the student to be able to spend their mental energy on the reflections and not on learning what the expectations of the task are. It will be interesting to watch the progression from the first reflection to the last reflection as the lessons progress. At the end of lesson five, the students will have five body reflections that they can choose what to do with.

At the end of each lesson plan, you will find a one-two page field guide designed to make it for you to print out double-sided. The information on the field guide contains instructions for the Moment in nature and the Experiential activity that occurs outside. The field guide can be taken outside with you and used as a resource as you lead your students through the lesson. If any resources were discussed in the lesson, they will be found in the appendix. For example, the reflection for each lesson will require an outline of a body. Choices for these images will be found in the appendix.

Plan your lessons as feels best in your day or weekly schedule. Each lesson is completed in its entirety can take one to one and a half hours depending on travel time on getting from inside to outside. This may not work to complete all in one day. If you need to break the lessons down into shorter sessions throughout the week, consider doing the literature section inside on the first day. The moment in nature and the activity could be completed on another day together. As they are both intended to happen outside may be helpful to do them together to limit the travel time from inside to outside and back. However, if you are looking for more experiences outside and the travel time is short or you have your inside-to-outside routine perfected, then splitting these activities into two days will give students even more outside learning time.

Ideally, the reflection should happen inside right when you get back from the outside experiential learning. However, if needed this task can happen later in the day or on the following day. If completing this on another day, you may need to have some conversation reflecting on the activities that happened when you and your students were outside.

Lesson 1: The Power of Sensation: Connecting to Our Bodies

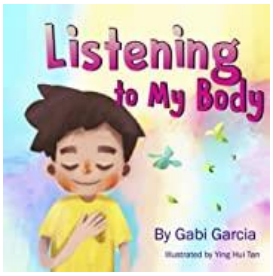
Direct Aim: The goal of this lesson is to introduce students to the concepts of sensation. Through the use of literature, guided attention practice, an activity, and reflection, students will have the opportunity to being to make connections between sensation and body awareness. This lesson will use elements of nature to create experiences where children can attend to sensations with the goal of increasing body awareness.

Indirect Aim: The overarching goal of this lesson is to instill a connection between children and their ability to control and communicate their needs. If children learn at a young age to be aware of the sensation of their body, they can also learn that they can make decisions that are individual to their own needs based on those feelings. They can be active agents within their environment, making conscious decisions about their responses to their bodies, rather than being controlled by reactiveness.

Literature

The literature portion of each of these lessons can be either inside or outside of the classroom setting. Some factors to consider include:

- Do you have an inside story time routine that would be helpful for concentration and learning for an initial introduction to the concepts?
- Do you have a well established routine for outside learning behaviors?
- What is the weather like? (While adverse weather is sometimes helpful when exploring sensations and learning, if you are introducing new concepts, it may not be the right environment for this type of learning.)



Listening to My Body
Escuchando a Mi Cuerpo

By: Gabi Garcia (2017)

Read aloud option:

https://www.youtube.com/watch?v=-B6Rik-TA-Q

Listening to My Body is a wonderful book that gives children concrete examples of how sensations in the body connect to feelings. Throughout the book, there are descriptions of feelings that expand knowledge of emotions outside the concepts of "happy or sad." There are simple practice suggestions so that students can engage in experiential learning throughout the book. Garcia also uses guiding questions throughout the book to encourage children to explore for themselves how they are experiencing sensations. Due to the rich discussion opportunities that are already presented in the book, additional discussion questions are not provided for this book. However, I encourage you to reflect on the following key concepts. These key concepts are ideas that are big ideas that are worth revisiting frequently with your students.

Key Concepts:

- When I pay attention and listen to my body, I notice many different sensations. (p. 3)
- Feelings are not good or bad. They are something we all experience. (p. 9)
- Sensations and feelings are like waves in the ocean…they always come and go. (p. 15)
- Everybody is different, so you get to decide what feels best for you. (p. 24)
- The more I practice listening to my body, the better I get at responding with care and kindness for myself. (p. 25)

Vocabulary: Sensation, curious, proud, grumpy, scared, excited, nervous, overwhelmed, playful, peaceful, frustrated

Note: The concepts of this book are deep and worth revisiting often with your students. While this lesson has a direct path of learning in nature, concepts of this book can be included throughout many lessons that happen throughout the natural day of the classroom. Feel free to utilize the suggestions at the beginning of the book or the practices on some of the pages when it makes sense during the school day. The more that you can model and verbalize to your students how you are feeling or how sensations are affecting you, the more opportunities for practice in real life experiences your students will have. For example, "I am noticing that I am feeling tired after lunch. I am going to jump up and down five times and see if that helps to wake up my body. If anyone else is feeling tired after lunch, feel free to jump along with me if you think that will be helpful for your body and mind." *Moment in Nature, Experiential Activity, and Reflection* will continue the learning that has begun with reading and discussing *Listening to My Body*. The book began to teach your students to tune into the sensation and feelings of their bodies. The following activities will now add the element of nature to sensory awareness.

Moments in Nature (sensory attention training) Outside experiential learning

Encourage/Instruct students to find a spot and position that is comfortable for them. Give examples of sitting cross-leg, seated on a stump or rock, laying in the grass, standing, or leaning against a tree or the side of a building. Give clear boundaries about how far you are comfortable with students spreading out and where there are allowed to go to find their spot. Make sure that each student can hear you by doing a check-in with students. While attention training in nature may be a new experience for students, allow them to respond however they may. This first offering is intentionally short to encourage a positive experience. However, if students respond in a way that is not positive, that is okay too. It is a learning experience both for them as students and for you as their teacher. You may learn how your expectations differ from the reality of what

may happen. This information is useful as well. It can drive future instruction. Perhaps attention training like this needs short (1-2 min), daily practices inside the classroom setting before moving outside. Perhaps different instructions regarding the environmental setup would be helpful the next time. You and your students will learn together.

Nature body scan *(2-3 minutes, with pauses as appropriate after each suggestion)*

> *It is time for our bodies to take a rest and be still*
> *Decide if it is best for you to close your eyes or keep them open*
> *Notice the feeling of your feet against the Earth*
> *Make them heavy and see if you can feel your feet sinking into the Earth*
> *Move your attention up your legs*
> *Notice what it feels like to have your legs resting against the Earth*
> *Take a deep breath in and think about how the air feels in your stomach and chest*
> *Notice your arms and hands, are they warm/cold/tingly/heavy?*
> *What do they feel like as the wind blows, the sun shines on them, or as they rest on the Earth?*
> *Move your attention up to your head*
> *What do you feel in your head?*
> *Open your eye and notice the colors around you*
> *Notice how the colors of the Earth make you feel*
> *Begin to slowly start moving your body again by wiggling your fingers and toes*
> *When you are ready, join me by making a circle with your classmates and myself*

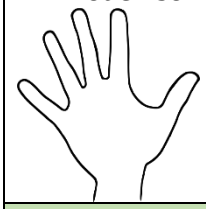
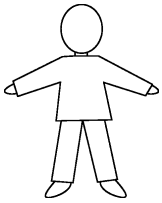
Experiential Activity- Outside experiential learning

Find and Share

Materials: Sensory cards (see appendix), timer

The purpose of this activity is to let children have fun exploring their environment while also exploring the sensations that they have been learning about. Set clear physical boundaries for the area that they are allowed to explore. See the following suggestions for instructions on what they may want to look for. You may just want to pick one prompt from each sensory section so that the students can explore something from each sensory area. Taste will be excluded from this exercise so as to not promote eating of anything that may be poisonous. Set your timer for two minutes, give the prompt of your choosing, and let students explore. At the end of the two

minutes, have them return to you, pair up with a peer, and share how that sensation made their bodies feel. You may want to do a quick role play with a peer to demonstrate expectations. “I found a stem of a flower that was fuzzy and it made my fingers feel tingly.” After they are able to share with a peer (30 sec to 1 min) give them a prompt from the next sensory area. Continue until you feel that students have gotten ample opportunity to explore a variety of sensations and share their insights about how these sensations made them feel.

<table>
<tr><th>Touch</th><th>Smell</th></tr>
<tr><td>Touch something that feels cold
 
Touch something that feels rough
Touch something that feels fuzzy
Touch something that feels smooth</td><td>Smell something sweet
 
Smell something earthy
Smell something strong</td></tr>
<tr><th>Sound</th><th>Sight</th></tr>
<tr><td>Listen for a sound that is quiet
 
Listen for a sound that is loud
Listen for a sound that has an animal makes
Listen for the sound of the wind
Listen for the sound that is close by
Listen for a sound that is far away</td><td>Look at something that is bright
 
Look at something very small
Look at something far away</td></tr>
<tr><th colspan="2">Body in Space</th></tr>
<tr><td colspan="2"> 
Balance on a log, rock, curb, etc. and think about how your body feels
Jump around a tree, or jump 10 times, or jump as high as you can and see how that makes your body feel
Close your eyes and feel how the wind might move you, think about how this makes your body feel</td></tr>
</table>

Closing the activity- You may notice an increase in energy and challenges with following directions as the task is coming to an end. One way to get students’ attention is to use their visual systems to help their bodies re-organize so that they can transition back to the classroom setting. Hold your arm out to the side with your thumb facing up. Give them the instructions “look at my

thumb, look at my nose, look at my thumb, look at _____." Pause in between each instruction to give them time to focus and then move on to the next instruction. Do this until you have gotten the visual attention of your students. Speak quietly so that they have to listen closely and give instructions for the procedure on returning to the classroom. End by taking a deep breath and giving a moment of gratitude to the Earth. "Thank you, Earth, for letting us experience all of these sensations today."

Reflection- Body Mapping- Outside or Inside

Body mapping is a tool that is used in a variety of settings for educating children and adults about sensations and feeling and how they are represented in the body. Body mapping can provide children with a visual opportunity to express how sensations and feelings affect their bodies. For the reflection portion of this lesson, a body mapping activity will allow students to express the learning and awareness that they experienced during the lesson's previous three activity sections. For the first lesson or two, it will be important to guide the learning process and provide a variety of examples of how children can express what they have learned. In the appendix, you will find several options for body outlines that you can utilize for your classroom. You will also find examples of a variety of mediums that children can use to express their learning. You can provide these resources as examples; however, working through your body map may be the best example to show students how to connect what they felt and experienced in nature to this reflection activity. Encourage students to be creative and use whatever medium is inspiring to them to express how their bodies are feeling after their experience outside. Some ideas for different mediums: colors, words, pictures, sentences, or poems.

Field Guide: Lesson One

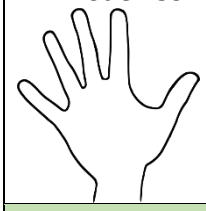
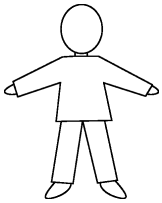
Moment in Nature: Nature body scan *(pauses as appropriate after each suggestion)*

It is time for our bodies to take a rest and be still
Decide if it is best for you to close your eyes or keep them open
Notice the feeling of your feet against the Earth
Make them heavy and see if you can feel your feet sinking into the Earth
Move your attention up your legs
Notice what it feels like to have your legs resting against the Earth
Take a deep breath in and think about how the air feels in your stomach and chest
Notice your arms and hands, are they warm/cold/tingly/heavy?
What do they feel like as the wind blows, the sun shines on them, or as they rest on the Earth?
Move your attention up to your head
What do you feel in your head?
Open your eye and notice the colors around you
Notice how the colors of the Earth make you feel
Begin to slowly start moving your body again by wiggling your fingers and toes
When you are ready, join me by making a circle with your classmates and myself

Experiential Activity:

- Set your timer for two minutes, give the prompt of your choosing, and let students explore. See prompt chart on next page.
- At the end of the two minutes, have them return to you, pair up with a peer, and share how that
  sensation made their bodies feel.
- You may want to do a quick role-play with a peer to demonstrate expectations. “I found a stem of a flower that was fuzzy and it made my fingers feel tingly.”
- After they are able to share with a peer (30 sec to 1 min) give them a prompt from the next sensory area.
- Continue until you feel that students have gotten ample opportunity to explore a variety of sensations and share their insights about how these sensations made them feel.

Field Guide: Lesson One

Touch	Smell
Touch something that feels cold  Touch something that feels rough Touch something that feels fuzzy Touch something that feels smooth	Smell something sweet  Smell something earthy Smell something strong
Sound	**Sight**
Listen for a sound that is quiet  Listen for a sound that is loud Listen for a sound that an animal makes Listen for the sound of the wind Listen for the sound that is close by Listen for a sound that is far away	Look at something that is bright  Look at something very small Look at something far away
Body in Space	
 Balance on a log, rock, curb, etc. and think about how your body feels Jump around a tree, or jump 10 times, or jump as high as you can and see how that makes your body feel Close your eyes and feel how the wind might move you, think about how this makes your body feel	

Outside Closing Activity:

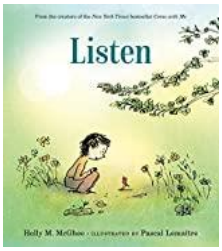
- Hold your arm out to the side with your thumb facing up
- "look at my thumb, look at my nose, look at my thumb, look at _____"
- Pause in between each instruction to give them time to focus and then move onto the next instruction. Do this until you have gotten the visual attention of your students.
- Speak quietly, give instructions for the procedure on returning to the classroom.
- Deep breath and giving a moment of gratitude to the Earth. "Thank you, Earth, for letting us experience all of these sensations today."

Lesson 2: Can you hear the Earth?

Direct Aim: Dive deeper into sensation and body awareness with a focus on sound and breath.

Indirect Aim: Drawing direct attention to the sound and breath connection will increase a student's ability to recognize a sensation, give that sensation awareness, and find space to be able to make a conscious decision about how they respond to that sensation.

Literature



Listen

By: Holly M. McGhee (2019)

Read Aloud: https://www.youtube.com/watch?v=fwE7QAxlDI0

Listen is a great book that introduces students to paying attention to sensations one at a time. This book uses natural elements such as the sounds of walking, the sun and stars, and dirt to teach students about the sensations of nature. *Listen* draws the connection between sensations being a part of who a person is. There is also a theme of connection between oneself, the Earth, and other people. This book can begin the discussion about how one's reactions to sensation and emotions have a connection to other people.

Key Concepts and Discussion Prompts (DP):

- "Listen to the sound of your feet- the sound of all of us and the sound of me". (p. 1 and p. 19)
    - DP- Have you ever walked in crunchy leaves and listened to how that sounds? How about when we walk in the hallways? Sometimes our feet are loud, and sometimes our feet are quiet. How does your body feel when you are walking loudly? How does it feel when you are walking quietly?

- "Listen with your heart. It is your ears, eyes, nose, mouth, hands. Your heart can hear everything, see everything, smell everything, taste everything, touch everything…" (p. 13)
    - DP- What do you think the author means by listening with your heart? When we use our ears, eyes, nose, mouth, and hands, do we also sometimes feel these sensations in our bodies as emotions? I'll give you an example: Once I heard a loud bang of thunder that I was not expecting. I heard this with my ears. I recognized that this sound I heard with my ears made me scared inside my body. My body jumped and I felt my heart start beating very fast. Here is another example. I was listening to you as you worked with partners earlier. My ears heard you laughing together and I knew you were having a good time. In my heart, I felt joy that you were enjoying each other's company. I knew I was happy because my lips were smiling. I wanted to laugh too! Do you have any examples of when you heard something and it created an emotion?
- "Your heart can hold everything. Including the world- its darkness and its light." (p. 15)
    - DP- Sensations and emotions are not always easy; they can also be hard. There is enough room inside of all of us for both easy and hard sensations. Remember in the book from the last lesson we learned that sensations and emotions roll in and out like waves.
- "Including your story, including my story- including the story of all of us…" (p. 15)
    - DP- Do you think everyone feels sensations the same way? Is it ok if some of us have different emotions? How does nature make you feel?

Vocabulary: Sensation, listen, breath, including, heart

Moments in Nature (sensory attention training)- Outside experiential learning

Encourage/Instruct students to find a spot and position that is comfortable for them. Give examples of sitting cross-leg, seated on a stump or rock, laying in the grass, standing, or leaning against a tree or the side of a building. Give clear boundaries about how far you are comfortable with students spreading out and where there are allowed to go to find their spot. Make sure that each student can hear you by doing a check-in with students. While attention training in nature may be a new experience for students, allow them to respond however they may.

Listening practice *(2-3 minutes, with pauses as appropriate after each suggestion)*

> *It is time for our bodies to take a rest and be still*
> *Decide if it is best for you to close your eyes or keep them open*
> *Take a deep breath in through your nose and slowly let it out*
> *Listen with both of your ears and see if you can identify any of the sounds you hear*
> *Can you hear the air/wind*
> *Can you hear the …(name something you can hear)*
> *Can you hear something close to you*
> *Can you hear something far away*
> *Take a deep breath in through your nose and slowly let it out*
> *Notice how the sounds of the Earth make you feel*
> *Begin to slowly start moving your body again by wiggling your fingers and toes*
> *When you are ready, join me by making a circle with your classmates and myself*

Experiential Activity- Outside experiential learning

What do you hear?

This activity does not require any additional materials. Have students work in pairs that can stay the same throughout the task or can switch after each prompt. Provide boundaries as to where students need to stay. Give students a prompt from below and allow them 1-2 minutes to explore and follow the prompt. After each prompt and time for exploration, instruct students to stop and talk to their partner about what they heard and how it made their bodies feel. Hold up the sensory cards of the ear and the body for visual cues during the activity.

Prompts: (choose appropriate prompts for elements that are in your setting)

Place your ear against a tree, listen closely for what you hear. Be very quiet so that you can hear the sounds of the tree.

Walk around slowly, listen to the sound of your feet. Be very quiet so you can hear the sound of your footsteps.

Place your ear against the ground, listen closely for what you hear. Be very quiet so that you can hear the sounds of the ground.

Crinkle a leaf from the ground, what does it sound like? Be very quiet so that you can hear the sounds of the leaf.

Walk around quickly, run if you would like. Listen to the sound of your footsteps.

Listen to the sound of the wind.

Add in any other prompts that are specific to your area that you can hear

Reflection**-** Body Mapping- refer to the instructions in lesson one and repeat the body mapping task. Students may still need you to walk through this task so that they know your expectations. If you are doing this task inside after transitioning in from nature, have a brief discussion about the moment in nature and the activity to remind them about their experience. Cue them to remember and think about how their bodies felt during these activities. Provide examples for a variety of mediums so that students have freedom to express themselves through multiple modes, choosing what is best for them.

Field Guide: Lesson Two

Moment in Nature: Listening practice *(pauses as appropriate after each suggestion)*

It is time for our bodies to take a rest and be still
Decide if it is best for you to close your eyes or keep them open
Take a deep breath in through your nose and slowly let it out
Listen with both of your ears and see if you can identify any of the sounds you hear
Can you hear the air/wind
Can you hear the …(name something you can hear)
Can you hear something close to you
Can you hear something far away
Take a deep breath in through your nose and slowly let it out
Notice how the sounds of the Earth make you feel
Begin to slowly start moving your body again by wiggling your fingers and toes
When you are ready, join me by making a circle with your classmates and myself

Experiential Activity- Outside experiential learning

What do you hear?

Have students work in pairs that can stay the same throughout the task or can switch after each prompt. Provide boundaries as to where students need to stay. Give students a prompt from below and allow them 1-2 minutes to explore and follow the prompt. After each prompt and time for exploration, instruct students to stop and talk to partner about what they heard and how it made their bodies feel. Hold up the sensory cards of the ear and the body for visual cues during the activity.

Prompts: (choose appropriate prompts for elements that are in your setting)

- Place your ear against a tree, listen closely for what you hear. Be very quiet so that you can hear the sounds of the tree.
- Walk around slowly, listen to the sound of your feet. Be very quiet so you can hear the sound of your footsteps.
- Place your ear against the ground, listen closely for what you hear. Be very quiet so that you can hear the sounds of the ground.
- Crinkle a leaf from the ground, what does it sound like. Be very quiet so that you can hear the sounds of the leaf.
- Walk around quickly, run if you would like. Listen to the sound of your footsteps.
- Listen to the sound of the wind.
- Add in any other prompts that are specific to your area that you can hear

Outside Closing Activity: Repeat activity from Lesson One. Hold your arm out to the side with your thumb facing up, “look at my thumb, look at my nose, look at my thumb, look at _____” Do this until you have gotten the visual attention of your students. Deep breath and giving a moment of gratitude to the Earth. “Thank you, Earth, for letting us experience all of these sensations today.”

Lesson 3: So much to see: Exploring Wonder

Direct Aim: Attention training and awareness of the sensory system of the eyes and vision

Indirect Aim: Increase student awareness and wonder for making the ordinary sensational. Making exploration of the natural spaces that students are familiar with and making it joyful through finding small wonders of their environment.

Literature

Tiny, Perfect Things

By: M.H. Clark (2019)

Read Aloud: https://www.youtube.com/watch?v=UPh-1IOYLYc

Tiny, perfect things is a delightfully illustrated and authored book that brings wonder and joy in explicitly paying attention to the small and ordinary aspects of the natural world. The characters of this book find many visual treasures on a walk in their neighborhood, noticing details of objects and creatures in nature. This book also continues the theme of connection and that the practice of paying visual attention to the environment was made better by the time that was spent together.

Key Concepts and Discussion Prompts (DP)

- "Today we keep our eyes open for tiny, perfect things." (p. 1)
    - DP- We can use our eyes to find tiny perfect things in our environment. Do you think we can use our eyes and start noticing the small details of our spaces? Let's practice here in our classroom. Who can notice a small detail? What does perfect mean? (can have a discussion about how imperfections can also be perfect because they make the object, creature, or ourselves unique)

- "The world is full of wonders, no matter where we go." (p. 26)
    - DP- We all have places that we go to all the time, our homes, the spaces outside our homes, the playground, and school. These places are very familiar because we are there often and we get used to what we see in that place. In this book, the characters pay very close attention to the little objects that are in those spaces. Do you think we can practice this when we go outside? How will we notice tiny, perfect things that we may not have noticed before?
- "I wonder what we will see today?" (p. 28)
    - DP- What does the word wonder mean? How does your body feel when you are wondering? Are you curious?
- "The world is full of perfect things when you come look with me." (p. 30)
    - DP- We can find joy in spending time in nature alone or with others. What do you think the benefits are of being in nature on your own? What do you think are the benefits of being in nature with someone else?

Vocabulary: wonder, perfect

Moments in Nature (sensory attention training)- Outside experiential learning

Encourage/Instruct students to find a spot and position that is comfortable for them. Give examples of sitting cross-leg, seated on a stump or rock, laying in the grass, standing, or leaning against a tree or the side of a building. Give clear boundaries about how far you are comfortable with students spreading out and where there are allowed to go to find their spot. Make sure that each student can hear you by doing a check-in with students. While attention training in nature may be a new experience for students, allow them to respond however they may.

Visual practice *(2-3 minutes, with pauses as appropriate after each suggestion)*

It is time for our bodies to take a rest and be still
Today we are going to keep our eyes open
Take a deep breath in through your nose and slowly let it out
Notice all the colors around you
In your head notice all the different shades of those colors
How bright are they, how dull are they
Notice the texture around you
Can you see something rough; can you see something smooth
Look at something far away
Look at something close by you
Take a deep breath in through your nose and slowly let it out
Notice how the sounds of the Earth make you feel
Begin to slowly start moving your body again by wiggling your fingers and toes
When you are ready, join me by making a circle with your classmates and myself

Experiential Activity-

Look and See!

Materials: clipboard and paper/pencil for sketching, magnifying glass (Check with the science centers to see if any are available at your school. Or make your own visual finders using the template in the appendix. This can be prepped on a different day before this lesson and laminated if that is a resource for you. Students can help with cutting out their own visual finder)

This activity is designed to give children room and time to explore their environments on their own. By this third lesson, they should be becoming more acquainted with your expectations and boundaries around learning in an outside space. This is now the time to start to give them some independence and less instruction. The learning will happen through their own exploration and experience. After reading about the visual sensation system and practicing during the moment in nature, it is now time to let them be free to visually explore their environment. Provide a clipboard, small magnifying glass, and writing tool for students. Give them instructions to find their own tiny, perfect things and to keep track of them in their journal by drawing them or writing words to describe them. At the end of the session bring students back to the circle. Have students reflect on how they felt when they found a tiny, perfect thing. Ask them

what they would like to do with their journals. Save them for themselves and take them home, share them with the group at another time (perhaps at the end of the day closing circle to reminding them of their nature learning), or hang them inside or outside the class are all options.

Reflection- Body Mapping- refer to the instructions in lesson one and repeat body mapping task. After doing this for the last two lessons, students may not need as much instruction as before. If you are doing this task inside after transitioning in from nature, have a brief discussion about the moment in nature and the activity to remind them about their experience. Cue them to remember and think about how their bodies felt during these activities. Continue to provide a variety of mediums so that students have freedom to express themselves through multiple modes, choosing what is best for them.

Field Guide: Lesson Three

Visual practice *(with pauses as appropriate after each suggestion)*

It is time for our bodies to take a rest and be still
Today we are going to keep our eyes open
Take a deep breath in through your nose and slowly let it out
Notice all the colors around you
In your head notice all the different shades of those colors
How bright are they, how dull are they
Notice the texture around you
Can you see something rough; can you see something smooth
Look at something far away
Look at something close by you
Take a deep breath in through your nose and slowly let it out
Notice how the sounds of the Earth make you feel
Begin to slowly start moving your body again by wiggling your fingers and toes
When you are ready, join me by making a circle with your classmates and myself

Experiential Activity-

Look and See!

Materials: clipboard and paper/pencil for sketching, magnifying glass, or visual finder resource

- Provide a clipboard, small magnifying glass, and writing tool for students.
- Give them instructions to find their own tiny, perfect things and to keep track of them in their journal by drawing them or writing words to describe them.
- At the end of the session bring students back to the circle. Have students reflect on how they felt when they found a tiny, perfect thing.
- Ask them what they would like to do with their journals?
    - Save them for themselves and take them home
    - Share them with the group at another time (perhaps at the end of the day closing circle to reminding them of their nature learning)
    - Hang them inside or outside the class

Outside Closing Activity: Repeat activity from Lesson One. Hold your arm out to the side with your thumb facing up, “look at my thumb, look at my nose, look at my thumb, look at _____” Do this until you have gotten the visual attention of your students. Deep breath and giving a moment of gratitude to the Earth. “Thank you, Earth, for letting us experience all of these sensations today.”

Lesson 4: Feeling Nature

Direct Aim: In the past three lessons, students have explored nature sensations and how their body works to observe and be a part of nature. With *Bathing in the Forest*, students will now explore feelings and the relationship that nature can have on affecting their emotions.

Indirect Aim: Students are increasing their knowledge about sensation and nature. The indirect aim is that if students can build sensory self-awareness, they increase their interoceptive intelligence. If students can recognize how emotions feel, name them, and recognize the bodily sensations that accompany these emotions, they can find solutions and take actions that promote healthy self-care.

Book- Bathing in the Forest

By: Nivola Uya and Marc Ayats (2019)

Read Aloud-

https://www.youtube.com/watch?v=RpzMVJal5pI

Bathing in the Forest sets the scene of a young girl who is the guide of the forest. She utilized the natural forces of the forest to help a family that comes to the forest with anxiety, loneliness, sadness, and nervousness. The beautifully illustrated pages describe how the Graystone family comes into the forest with big emotions and the forest guides them and provides them with self-care.

Key concepts: This book is more abstract than others that have been used in previous lessons. Students will need room during reading of this book for discussion of some of the subtle themes that are presented. To support this, instead of providing key concepts, discussion prompts (DP) will be provided after key pages.

- Page 4: “I welcome them all with a loving embrace”

    - DP- Discuss the idea of a girl of the forest. Is this a real girl? Discuss that the girl represents the forest.

- Page 5-10: Working through loneliness
    - DP- Have you ever felt lonely? Where in your body can you feel loneliness? What does Mr. Grayshadow's face look like? Page 5: Point out how in the pictures when he is feeling lonely, his color is grey. The forest suggests he take a bath in the forest. Is he really taking a bath? What do you think taking a bath in the forest is like? Page 9-10- point out how the birds are there with him. How he is surrounded by life of the mushroom, flowers, and plants. What sensations is he paying attention to? Is he hearing the birds with his ears? Smelling the earth and flowers with his nose? Feeling the ground and leaves with his hands? Point out how color is brought back into his person. How does he feel now? Do you think paying attention to the sensations in the forest helped him?
- Page 11-17: Working through fear, being scared
    - DP- Have you ever felt scared? Where in your body can you feel fear? What does Mrs. Graystone's face look like? Page 11: Point out how in the pictures when she is feeling lonely, her color is grey. The forest suggests she take a bath in the forest. Remind students that "taking a bath in the forest" means paying attention to sensations in the forest. Pg 9-10- point out how she is doing something brave. How she is surrounded by life and water. What sensations is she paying attention to? Is she feeling the wind in her hair and on her body? Looking at the water and plants with her eyes? Feeling her body balance on the bird? Point out how color is

brought back into her person. How does she feel now? Do you think paying attention to the sensations in the forest helped her?

- Page 18-23: Working through nervousness, anxiety, sadness
    - DP- Have you ever felt nervous or sad? Where in your body can you feel anxiety? Where do you feel sadness? What does the boy's face look like? Pg 22-23- What sensations is he paying attention to? Is he smelling the flowers with his nose? Is he closing his eyes and taking a deep breath? Point out how color is brought back into his person. How does he feel now? Do you think paying attention to the sensations in the forest helped him?

Note: Refer to the emotion chart in the appendix. Work through this chart with your class as you read the book. You can project it on a wall, make it poster size, or draw it bigger on a white board. This visual can help make the connection between emotion, recognizing sensation, and then taking action to manage the emotion as the emotions comes and goes. Take a copy of this chart that you start making with students outside for the Moment of Nature and Activity so that you can continue to build this resource together. It can become an emotional management tool that you can refer to when need to assist with big emotions of your students.

Vocabulary: Lonely, fear, scared, anxiety, nervous, sad

Moments in Nature (sensory attention training)/***Experiential Activity***-

In lesson four, the Moments in Nature and the Activity will be the same task. Provided are two options for you to choose from to use with your students. Access to a forest for this session may not be reasonable for every school. The options provided are diverse so you can choose the option that suits your setting. Option 1 is based on an invitation for practice of Forest Bathing. For more information, please refer to the Association of Forest & Nature Therapy at

https://www.natureandforesttherapy.earth/membership/all-member-portal/invitations. If you have access to a forest from your school, then you can use this option in the forest. However, there are many parts of nature that are moving and sensory rich that aren't in a forest. You may be using an open space on your playground, a field, or even walking along a sidewalk. Find the best and safest option for your students. If the space is not conducive to allowing students open space to explore, leave that line out of the guide and keep students in a line. Option 2 is a resource provided by the book *Bathing in the Forest* that you read earlier in the lesson.

Option 1: What's in Motion – Guided Slow Walk (In a space where students will be safe when walking not in a line. Be sure to set boundaries around where they need to stay.)

> *Usually, when we are walking, we have somewhere to go, so we walk quickly*
> *Today, we are going to practice walking very slow*
> *Walking slowly will allow us to practice using all our senses to pay attention to nature*
> *We are going to be paying attention to the movement of nature*
> *Can you notice what moves in nature when you walk slowly?*
> *I will lead us in a line, so you know how slow to walk*
> *Then I will let you walk wherever you would like to walk in our safe space*
> *Remember to use all your senses to notice what is moving around you as you move slow.*
> *Let's start*
> Give some time to get started with walking, provide cues as needed for speed and attention.
> *Can you use your eyes to see what is moving?* Pause
> *Can you use your ears to hear what is moving?* Pause
> *Remember to look up.* Pause
> *Remember to look down.* Pause
> *Remember to look side to side.* Pause
> *You did a wonderful job staying in line, now you are free to explore what is moving on your own. Remember to stay in our safe space and turn back if you get to the edge of the safe space.*
> Repeat any of the sensory attention phrases above as you feel appropriate
> *We are now finished with our slow walk*
> *Take a deep breath in and let it out slowly*
> *Return to our circle so we can talk about our experience*

Option 2: Refer to handout that accompanies *Bathing in the Forest* at

https://www.cuentodeluz.com/pages/activity-booklet-bathing-in-the-forest

Close the walk by bringing everyone together. Refer to the resource chart you started together. Are there sensations that they experienced that they would like to add to the chart as something they can use as a resource when they are feeling big emotions?

Reflection- Body Mapping- refer to instructions in lesson one and repeat body mapping task. See if students can be independent with initiation, execution, and completion of this task, after completing it three times previously. If you are doing this task inside after transitioning in from nature, have a brief discussion about the moment in nature and the activity to remind them about their experience. Cue them to remember and think about how their bodies felt during these activities. Continue to provide a variety of mediums so that students have freedom to express themselves through multiple modes, choosing what is best for them.

Field Guide: Lesson Four

Moments in Nature (sensory attention training)/***Experiential Activity***-

Moments in Nature and the Activity will be the same task

Option 1: **What's in Motion – Guided Slow Walk**
(In a space where students will be safe when walking not in a line. Be sure to set boundaries around where they need to stay.)

Usually, when we are walking, we have somewhere to go, so we walk quickly
Today, we are going to practice walking very slow
Walking slowly will allow us to practice using all our senses to pay attention to the nature
We are going to be paying attention to the movement of nature
Can you notice what moves in nature when you walk slowly?
I will lead us in a line, so you know how slow to walk
Then I will let you walk wherever you would like to walk in our safe space
Remember to use all your senses to notice what is moving around you as you move slowly.
Let's start
Give some time to get started with walking, provide cues as needed for speed and attention.
Can you use your eyes to see what is moving? Pause
Can you use your ears to hear what is moving? Pause
Remember to look up. Pause
Remember to look down. Pause
Remember to look side to side. Pause
You did a wonderful job staying in line, now you are free to explore what is moving on your own.
Remember to stay in our safe space and turn back if you get to the edge of the safe space.
Repeat any of the sensory attention phrases above as you feel appropriate
We are now finished with our slow walk
Take a deep breath in and let it out slowly
Return to our circle so we can talk about our experience

Option 2: Refer to handout that accompanies *Bathing in the Forest* and printed ahead of time.

Close the walk by bringing everyone together. Refer to the resource chart you started together. Are there sensations that they experienced that they would like to add to the chart as something they can use as a resource when they are feeling big emotions?

Outside Closing Activity: Repeat activity from Lesson One. Hold your arm out to the side with your thumb facing up, "look at my thumb, look at my nose, look at my thumb, look at _____" Do this until you have gotten the visual attention of your students. Deep breath and giving a moment of gratitude to the Earth. "Thank you, Earth, for letting us experience all of these sensations today."

Lesson 5: Connection: Becoming a guardian of the Earth

Direct Aim: Increase students' awareness of the connections between themselves, the sensations they experience, the emotions they feel, the people around them, and the Earth.

Indirect Aim: Lifelong interest in conservation, awareness of others and our interdependence on each other, awareness of how our actions affect others

Book- We are All Connected: Caring for Each Other & the Earth

By: Gabi Garcia (2022)

Read Aloud:

https://www.youtube.com/watch?v=QxzN-EwztSI

Lesson one began with a great book by Gabi Garcia teaching children about their own bodies. Lesson five will come full circle and end up with another fabulous teaching book by Gabi Garcia, this time expanding the focus from the internal to the external way in which we are all connected to each other and the Earth.

Key Concepts:

- "We are stronger together than we are apart." (p. 3)
- "We can celebrate differences, lend a hand. Learn from each other, take a stand." (p. 13)
- "Protect the water, care for the land, respect all beings; the earth is grand." (p. 18)
- "The earth is our home and needs our care. We all play a part. We breathe the same air." (p. 25-26)
- "We are all connected. Take care of each other. Take care of the Earth. We are all here together." (p. 29-30)

Vocabulary: connected, human race, kindness, mistakes, grace, differences, protect, respect, preserve.

Moments in Nature (sensory attention training) Full circle sensory awareness, back to the basics

It is time for our bodies to take a rest and be still
Decide if it is best for you to close your eyes or keep them open
Take a deep breath in and let it out slowly
Bring your attention to your ears
What do you hear? What are the sounds of nature?
Move your attention to your skin
What do you feel? What does the touch of nature feel like?
Pay attention to your nose
What do you smell? What are the smells of nature?
Practice closing your eyes and feel your body against the earth
Open your eyes
What do you see? What are the sights of nature?
Take a deep breath in and let it out slowly
Begin to slowly start moving your body again by wiggling your fingers and toes
When you are ready, join me by making a circle with your classmates and myself

Experiential Activity- Together we can make our classroom and earth a better place to learn and live.

Nature box for the classroom and **Giving Back to the Earth by Keeping it Clean**

This lesson has two parts that can happen at the same time. The first is a team building activity that will create a resource for your classroom. The second is a conservation activity that the students can engage in to be good guardians of the earth.

Nature box for the classroom: The goal of this lesson is to create a sensory box of nature items that can be used in your classroom to assist with emotional regulation. Students have been learning about how paying attention in nature can be a resource for dealing with big emotions. However, during the school day, it is not always reasonable that a student will be able to access nature sensations or go outside at the exact time that they are having a big emotion. However, by creating a space in your classroom and a nature sensory box, they may be able to access some

strategies that they have learned while being out in nature. At this point, your students have had direct experiences in nature. The sensory box will not only provide a physical aspect of nature that they can attend to, but it will also act as a memory trigger. You can add this to an already existing calm corner or create a space that the students can feel safe to access this sensory nature box. Pair it with the chart created last week for recognizing big emotions, where they might feel the emotions in their bodies, and the strategies you developed together as a resource they can access along with the sensory box.

Begin outside with your students gathered and instruct them that you are going to work as a team to build a sensory nature box for your classroom. This is a great time to discuss the concept of "Leave no trace" with your students. While this activity does not follow all of the standards of leave no trace, you may want to use the principles to set boundaries as to what can go in the box. For example, it will be important to discuss that nothing living should be picked or killed to go in the box. If they find something that is living that they feel really gives them a strong sensation that they want to add to the box, consider taking a picture of the item (flower, tree, plant growing in the sidewalk, water). You can print out these pictures and add them to the box. While they won't provide the direct sensation when attending to them in the classroom, the visual cue from the picture can evoke a sensational memory that students can use as a resource. Guide students to explore their environment for 5 minutes, using all their senses to examine items around them. Find one item that particularly speaks to them and that they enjoy the way the sensation of this item makes them feel. After 5 min bring the students back into the circle and take turns explaining to the group the item they found, what sensation they like about it, and have them add it to the box. Explain that at the end of the year all of the items will be returned to

the outside so that they will end up back in nature after the class thanks them for their help in making the classroom an enjoyable place to learn.

Giving back to the earth by keeping it clean: Provide students with a disposable plastic glove and a small bag. Encourage them to pick up any trash that they see as they are exploring nature looking for their item to contribute to the sensory box. When you get back to the classroom you can sort the trash by recyclables and trash, adding even more conservation awareness to the students learning.

Reflection- Body Mapping- refer to the instructions in lesson one and repeat body mapping task. See if students can be independent with initiation, execution, and completion of this task, after completing it four times previously. If you are doing this task inside after transitioning in from nature, have a brief discussion about the moment in nature and the activity to remind them about their experience. Cue them to remember and think about how their bodies felt during these activities. Continue to provide a variety of mediums so that students have freedom to express themselves through multiple modes, choosing what is best for them.

Additional resources for teaching conservation to students:

National Recreation and Parks Association (Weeks, 2018): https://www.nrpa.org/blog/five-fun-activities-for-teaching-kids-about-conservation/

USDA Forest Service Activity Guide (n.d.): https://www.fs.usda.gov/main/conservationeducation/smokey-woodsy/woodsy-owl/activity-guide

Field Guide: Lesson Five

Moments in Nature (sensory attention training)

Full circle sensory awareness, back to the basics

It is time for our bodies to take a rest and be still
Decide if it is best for you to close your eyes or keep them open
Take a deep breath in and let it out slowly
Bring your attention to your ears
What do you hear? What are the sounds of nature?
Move your attention to your skin
What do you feel? What does the touch of nature feel like?
Pay attention to your nose
What do you smell? What are the smells of nature?
Practice closing your eyes and feel your body against the earth
Open your eyes
What do you see? What are the sights of nature?
Take a deep breath in and let it out slowly
Begin to slowly start moving your body again by wiggling your fingers and toes
When you are ready, join me by making a circle with your classmates and myself

Experiential Activity-

Nature box for the classroom/Giving Back to the Earth by Keeping it Clean- simultaneously

Nature box for the classroom:

- Instruct students that you are going to work as a team to build a sensory nature box for your classroom.
- Discuss the concept of "Leave no trace" with your students. While this activity does not follow all of the standards of leave no trace, you may want to use the principles to set boundaries as to what can go in the box.
- It will be important to discuss that nothing living should be picked or killed to go in the box.
- If they find something that is living that they feel really gives them a strong sensation that they want to add to the box, consider taking a picture of the item (flower, tree, plant growing in the sidewalk, water).
- You can print out these pictures and add them to the box.
- Guide students to explore their environment for 5 minutes, using all their senses to examine items around them.
- You can use the sensory cards and hold them up if students need cueing or to help bring their attention back to the task.
- Find one item that particularly speaks to them and that they enjoy the way the sensation of this item makes them feel.

- After 5 min bring the students back into the circle and take turns explaining to the group the item they found, what sensation they like about it, and have them add it to the box.
- Explain that at the end of the year all of the items will be returned to the outside so that they will end up back in nature after the class thanks them for their help in making the classroom an enjoyable place to learn.

Giving back to the earth by keeping it clean:

- Provide students with a disposable plastic glove and a small bag.
- Encourage them to pick up any trash that they see as they are exploring nature looking for their item to contribute to the sensory box.
- When you get back to the classroom you can sort the trash by recyclables and trash, adding even more conservation awareness to the students learning.

Outside Closing Activity: Repeat activity from Lesson One. Hold your arm out to the side with your thumb facing up, "look at my thumb, look at my nose, look at my thumb, look at _____" Do this until you have gotten the visual attention of your students. Deep breath and giving a moment of gratitude to the Earth. "Thank you, Earth, for letting us experience all of these sensations today."

Conclusion

Congratulations! You have led your students through a variety of lessons that have provided them with a lot of experiences in nature to learn about sensation, feeling, and their bodies. All the lessons are now completed and if students were present for all five lessons, they should have five body reflections that they can choose what to do with. Because these are personal reflections about sensation and their feelings in their bodies, it is important to respect their wishes as to what is done with these reflective pieces. Options can be given to the students, and they can be given the control to choose what they would like. Suggestions could include:

- Making them into a book with a cover page that they get to decorate. They could keep it private and take it home, or if they wish to share it with others, they could share it with a friend or with the class.
- String them up on a line and hanging them in the classroom or on a bulletin board so that other can see their reflections.
- Stringing them up and taking them home.

You and your students have completed the lessons together, but the classroom and nature are both dynamic environments. Utilize concepts, books, moments in nature, activities, and resources as often as you find beneficial for your students. Consider the cycle of the natural world and try lessons during different seasons to provide students with learning opportunities in all of the stages of nature. Don’t forget about winter! While it may take some extra planning and time for donning appropriate clothing, winter holds a quiet and dynamic stage for learning and sensory exploration. Enjoy!

References

Adams, S., & Savahl, S. (2017). Nature as children's space: A systematic review. *Journal of Environmental Education, 48*(5), 291–321. https://doi.org/10.1080/00958964.2017.1366160

Chawla, L., Keena, K., Pevec, I., & Stanley, E. (2014). Green schoolyards as havens from stress and resources for resilience in childhood and adolescence. *Health & Place, 28*, 1–13. https://doi.org/10.1016/j.healthplace.2014.03.001

Cheng, J. C-H & Monroe, M. C. (2012). Connection to nature: Children's affective attitude toward nature. *Environment and Behavior, 44*(1), 31–49.

Children's Books AMSR. (2019, November 24). *Tiny, perfect things* [Video]. YouTube. https://www.youtube.com/watch?v=UPh-1IOYLYc

Craig, A. D. (2002). How do you feel? Interoception: The sense of the physiological condition of the body. Nature Reviews Neuroscience, 3(8), 655. https://doi-org.ezproxyles.flo.org/10.1038/nrn894

Cuento De Luz (n.d.) *Activity booklet bathing in the forest*. https://www.cuentodeluz.com/pages/activity-booklet-bathing-in-the-forest

Dankiw, K.A., Tsiros, M.D., Baldock, K.L., Kumar, S. (2020). The impacts of unstructured nature play on health in early childhood development: A systematic review. *PLoS ONE 15*(2). Article 0229006. https://doi.org/10.1371/journal.pone.0229006

Desai, P. (n.d.) *How teachers can us trauma-informed mindfulness practices to support their students*. https://www.mindfulschools.org/inspiration/trauma-informed-mindfulness-practices/

Garcia, G. (2017) *Listening to my body* (Y. Hui Tan, Illus.). Skinned Knee Publishing.

Garcia, G. (2022) *We are all connected: Caring for each other & the Earth* (N. Jimenez Osorio, Illus.). Garcia Books.

Hinds, J., & O'Malley, S. (2019). Assessing nature connection and well-being during an experiential environmental program. *Children, Youth & Environments*, *29*(2), 92–107. https://doi.org/10.7721/chilyoutenvi.29.2.0092

HungryWolf Reads. (2018, January 1). *Listening to my body by Gabi Garcia* [Video]. YouTube. https://www.youtube.com/watch?v=-B6Rik-TA-Q

Joyful Learning for Young Minds. (2020, August 28). *"Listen" by Holly McGhee and illustrated by Pascal Lemaitre* [Video]. Youtube. https://www.youtube.com/watch?v=fwE7QAxlDI0

Kabat-Zinn, J. (2005) *Coming to our senses: Healing ourselves and the world through mindfulness.* Hyperion.

Keith, R. J., Given, L. M., Martin, J. M., & Hochuli, D. F. (2021). Urban children's connections to nature and environmental behaviors differ with age and gender. *PLoS ONE*, *16*(7), 1–22. https://doi.org/10.1371/journal.pone.0255421

Kranowitz, C. S. (1998) *The out-of-sync child: Recognizing and coping with sensory integration dysfunction.* Skylight Press.

Li, D., Deal, B., Zhou, X., Slavenas, M., & Sullivan, W. C. (2018). Moving beyond the neighborhood: Daily exposure to nature and adolescents' mood. *Landscape & Urban Planning*, *173*, 33–43.

Literacy Inc. (2022, May 26). *We are all connected by Gabi Garcia* [Video]. YouTube. https://www.youtube.com/watch?v=QxzN-EwztSI

Mahler, K. (2019) *The interoception curriculum: A step-by-step framework for developing*

mindful self-regulation. Kelly-Mahler.

McGhee, H.M. (2019) *Listen* (P. Lemaitre, Illus.). Roaring Book Press.

Muse, E. (2021, January 13). *Bathing in the forest read aloud SD 480p* [Video]. YouTube. https://www.youtube.com/watch?v=RpzMVJal5pI

Nagata, M., & Liehr, P. (2021). Urban children's well-being factors and qualities of being and doing in natural space: Nature immersion. *Journal of Holistic Nursing*, *39*(2), 174–184.

Okur-Berberoglu, E. (2021). Some effects of unstructured outdoor plays on a child: A case study from New Zealand. *International Electronic Journal of Environmental Education*, *11*(1), 58–78.

Spitzer, B. (n.d.) *What's in motion* [audio]. Association of Nature & Forest Therapy. https://www.natureandforesttherapy.earth/membership/all-member-portal/invitations

USDA Forest Service (n.d.) Activity guide. https://www.fs.usda.gov/main/conservationeducation/smokey-woodsy/woodsy-owl/activity-guide

Uya, N., & Ayats, M. (2019) *Bathing in the forest.* Cuento de Luz SL.

Weeks, K. (2018, April 25) *Five fun activities for teaching kids about conservation.* National Recreation and Parks Association. https://www.nrpa.org/blog/five-fun-activities-for-teaching-kids-about-conservation/

Wells, N. M., & Lekies, K. S. (2006). Nature and the life course: Pathways from childhood nature experiences to adult environmentalism. *Children Youth and Environments*, *16*(1), 1–24. https://doi.org/10.7721/chilyoutenvi.16.1.0001

Appendix

Figure One: Visual Sensory Cards- All lessons

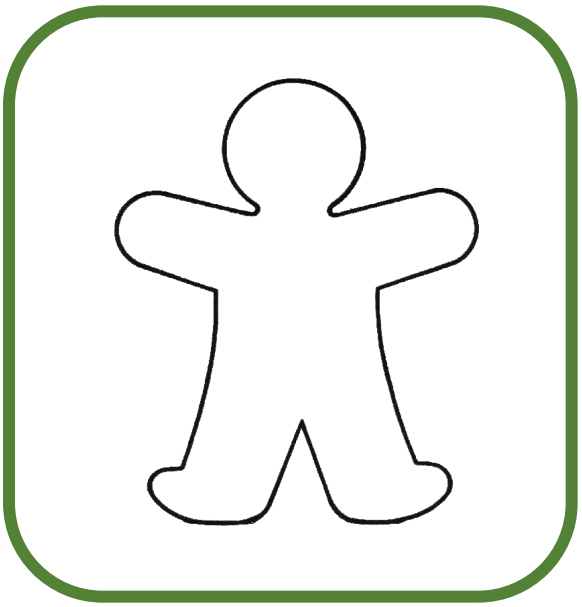
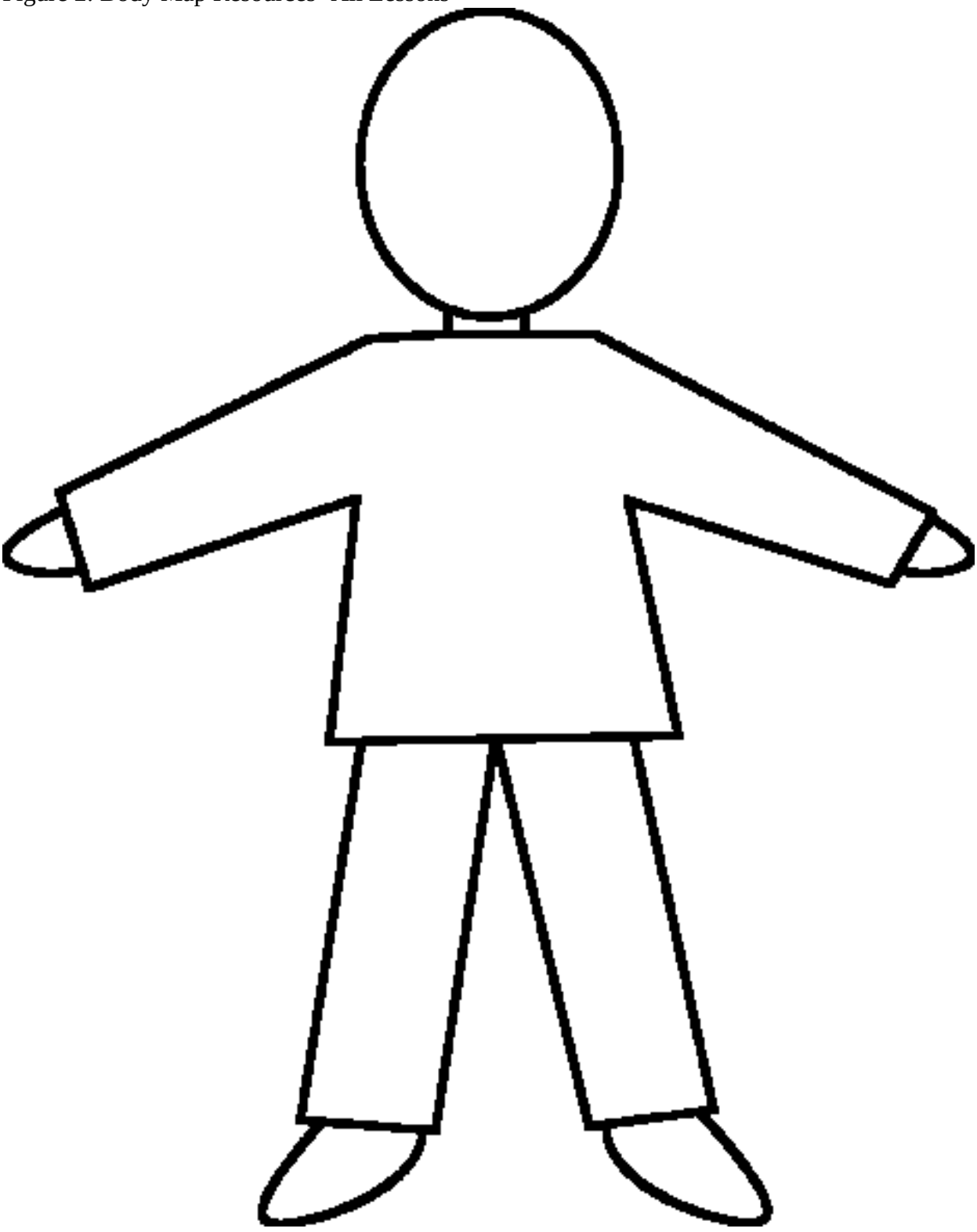
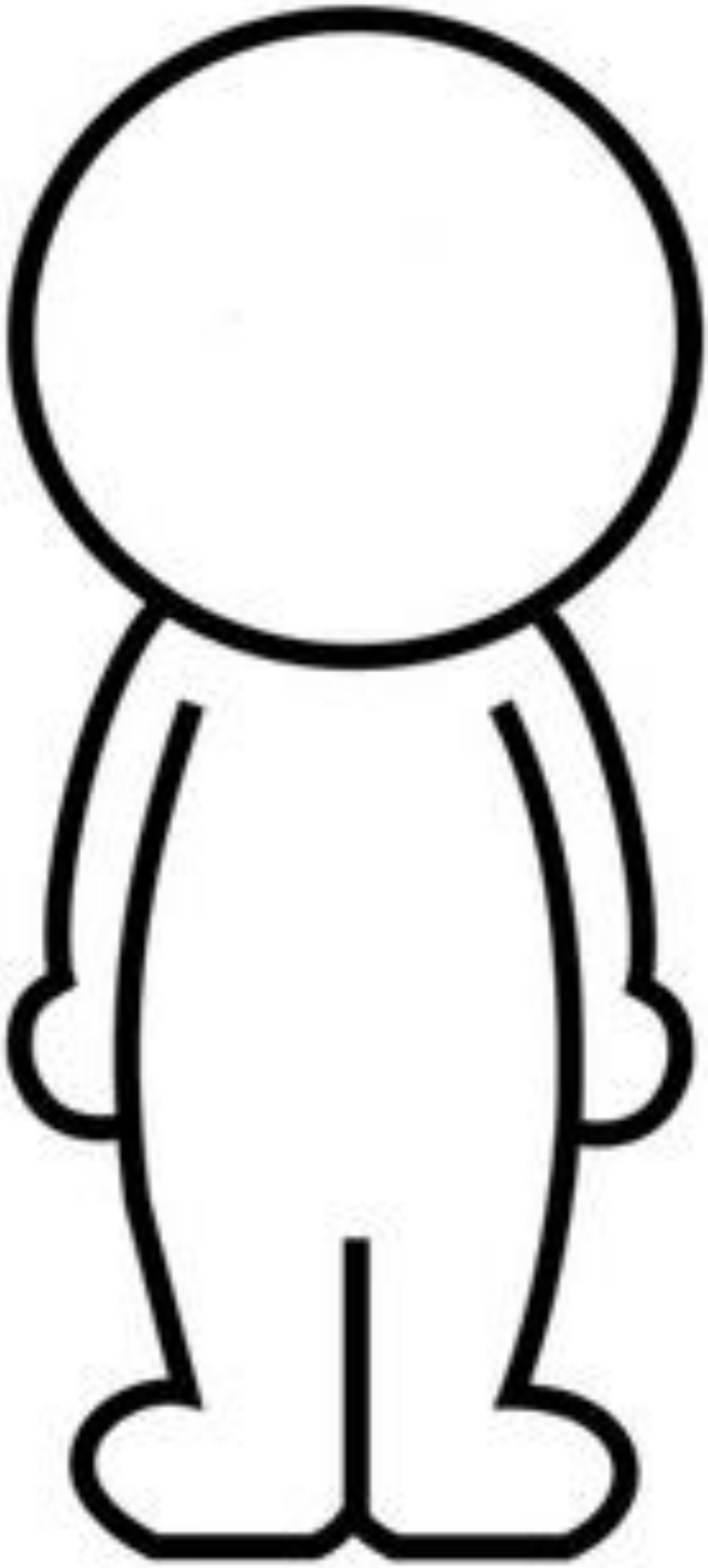


Figure 2: Body Map Resources- All Lessons





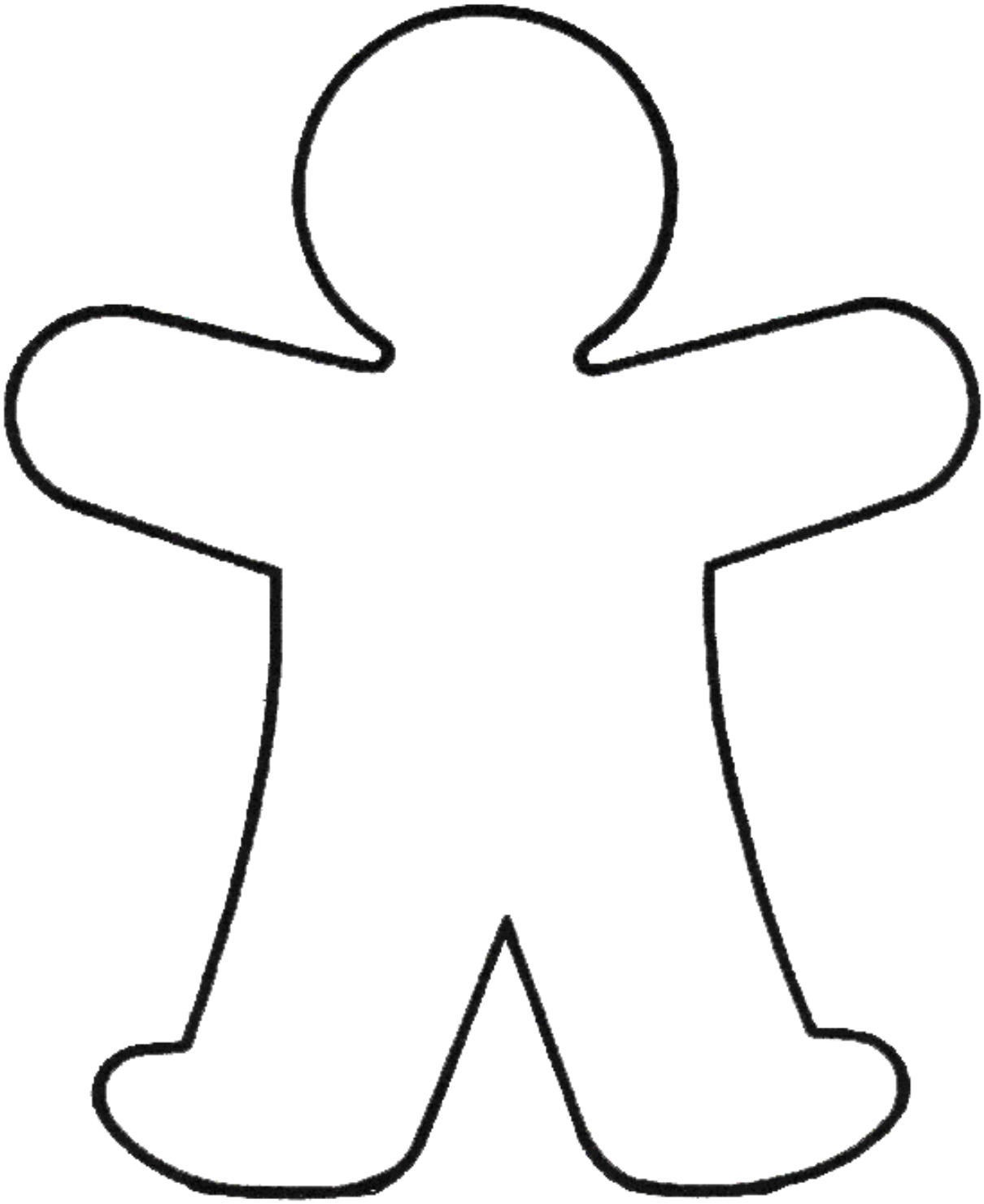


Figure 3: Visual Finder- Lesson 3: Pring this on cardstock and laminate if you wish. Work with students on cutting these out prior to lesson and practice using in the classroom

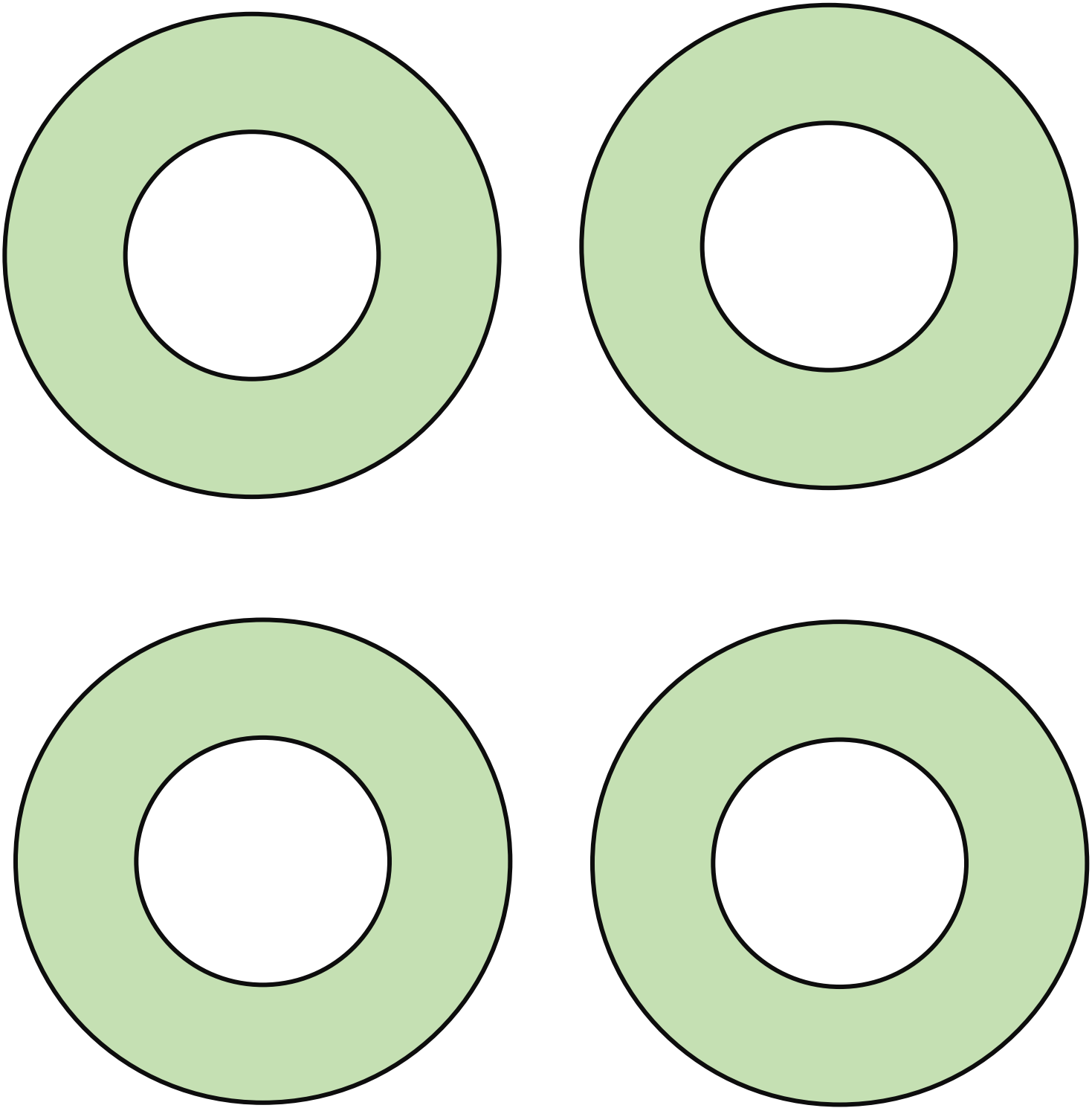
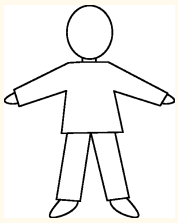
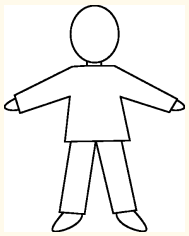
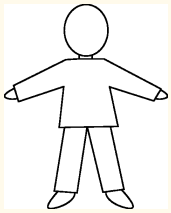
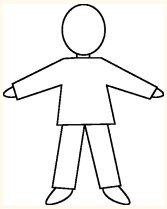
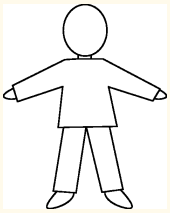


Figure 4: Lesson 4- Body emotions chart

Emotion	Body Where do I feel this emotion?	Sensation How can nature help with this emotion?
Loneliness		
Fear, Scared		
Anxiety		
Sad		
Anger		
Frustration